

# SEQUENCE LISTING

<110> Cellzome AG

<120> Protein complexes of the TIP60 transcriptional activator protein as well as components, fragments and derivatives thereof and methods for using the same

<130> Protein complexes of the TIP60 transcriptional activator protein as well as components, fragments and derivatives thereof and methods for using the same

<150> EP02016110.5

<151> 2002-07-19

<150> EP03101321.2

<151> 2003-05-12

<160> 18

<170> PatentIn version 3.1

<210> 1

<211> 919

<212> PRT

<213> Homo sapiens

<400> 1

Met Glu Val Gln Leu Gly Leu Gly Arg Val Tyr Pro Arg Pro Pro Ser  
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Lys Thr Tyr Arg Gly Ala Phe Gln Asn Leu Phe Gln Ser Val Arg Glu  
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Val Ile Gln Asn Pro Gly Pro Arg His Pro Glu Ala Ala Ser Ala Ala  
35 40 45

Pro Pro Gly Ala Ser Leu Leu Leu Leu Gln Gln Gln Gln Gln Gln  
50 55 60

Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Glu Thr  
65 70 75 80

Ser Pro Arg Gln Gln Gln Gln Gln Gly Glu Asp Gly Ser Pro Gln  
85 90 95

Ala His Arg Arg Gly Pro Thr Gly Tyr Leu Val Leu Asp Glu Glu Gln  
100 105 110

Gln Pro Ser Gln Pro Gln Ser Ala Leu Glu Cys His Pro Glu Arg Gly  
115 120 125

Cys Val Pro Glu Pro Gly Ala Ala Val Ala Ala Ser Lys Gly Leu Pro  
130 135 140

Gln Gln Leu Pro Ala Pro Pro Asp Glu Asp Asp Ser Ala Ala Pro Ser  
145 150 155 160

Thr Leu Ser Leu Leu Gly Pro Thr Phe Pro Gly Leu Ser Ser Cys Ser  
165 170 175

Ala Asp Leu Lys Asp Ile Leu Ser Glu Ala Ser Thr Met Gln Leu Leu  
 180 185 190

Gln Gln Gln Gln Gln Glu Ala Val Ser Glu Gly Ser Ser Ser Gly Arg  
 195 200 205

Ala Arg Glu Ala Ser Gly Ala Pro Thr Ser Ser Lys Asp Asn Tyr Leu  
 210 215 220

Gly Gly Thr Ser Thr Ile Ser Asp Asn Ala Lys Glu Leu Cys Lys Ala  
 225 230 235 240

Val Ser Val Ser Met Gly Leu Gly Val Glu Ala Leu Glu His Leu Ser  
 245 250 255

Pro Gly Glu Gln Leu Arg Gly Asp Cys Met Tyr Ala Pro Leu Leu Gly  
 260 265 270

Val Pro Pro Ala Val Arg Pro Thr Pro Cys Ala Pro Leu Ala Glu Cys  
 275 280 285

Lys Gly Ser Leu Leu Asp Asp Ser Ala Gly Lys Ser Thr Glu Asp Thr  
 290 295 300

Ala Glu Tyr Ser Pro Phe Lys Gly Gly Tyr Thr Lys Gly Leu Glu Gly  
 305 310 315 320

Glu Ser Leu Gly Cys Ser Gly Ser Ala Ala Ala Gly Ser Ser Gly Thr  
 325 330 335

Leu Glu Leu Pro Ser Thr Leu Ser Leu Tyr Lys Ser Gly Ala Leu Asp  
 340 345 350

Glu Ala Ala Ala Tyr Gln Ser Arg Asp Tyr Tyr Asn Phe Pro Leu Ala  
 355 360 365

Leu Ala Gly Pro Pro Pro Pro Pro Pro Pro His Pro His Ala Arg  
 370 375 380

Ile Lys Leu Glu Asn Pro Leu Asp Tyr Gly Ser Ala Trp Ala Ala Ala  
 385 390 395 400

Ala Ala Gln Cys Arg Tyr Gly Asp Leu Ala Ser Leu His Gly Ala Gly  
 405 410 415

Ala Ala Gly Pro Gly Ser Gly Ser Pro Ser Ala Ala Ala Ser Ser Ser  
 420 425 430

Trp His Thr Leu Phe Thr Ala Glu Glu Gly Gln Leu Tyr Gly Pro Cys  
 435 440 445

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly  
 450 455 460

Gly Gly Gly Gly Gly Gly Gly Gly Gly Glu Ala Gly Ala Val Ala Pro Tyr  
 465 470 475 480

Gly Tyr Thr Arg Pro Pro Gln Gly Leu Ala Gly Gln Glu Ser Asp Phe  
 485 490 495

Thr Ala Pro Asp Val Trp Tyr Pro Gly Gly Met Val Ser Arg Val Pro  
 500 505 510

Tyr Pro Ser Pro Thr Cys Val Lys Ser Glu Met Gly Pro Trp Met Asp  
 515 520 525

Ser Tyr Ser Gly Pro Tyr Gly Asp Met Arg Leu Glu Thr Ala Arg Asp  
 530 535 540

His Val Leu Pro Ile Asp Tyr Tyr Phe Pro Pro Gln Lys Thr Cys Leu  
 545 550 555 560

Ile Cys Gly Asp Glu Ala Ser Gly Cys His Tyr Gly Ala Leu Thr Cys  
 565 570 575

Gly Ser Cys Lys Val Phe Phe Lys Arg Ala Ala Glu Gly Lys Gln Lys  
 580 585 590

Tyr Leu Cys Ala Ser Arg Asn Asp Cys Thr Ile Asp Lys Phe Arg Arg  
 595 600 605

Lys Asn Cys Pro Ser Cys Arg Leu Arg Lys Cys Tyr Glu Ala Gly Met  
 610 615 620

Thr Leu Gly Ala Arg Lys Leu Lys Lys Leu Gly Asn Leu Lys Leu Gln  
 625 630 635 640

Glu Glu Gly Glu Ala Ser Ser Thr Thr Ser Pro Thr Glu Glu Thr Thr  
 645 650 655

Gln Lys Leu Thr Val Ser His Ile Glu Gly Tyr Glu Cys Gln Pro Ile  
 660 665 670

Phe Leu Asn Val Leu Glu Ala Ile Glu Pro Gly Val Val Cys Ala Gly  
 675 680 685

His Asp Asn Asn Gln Pro Asp Ser Phe Ala Ala Leu Leu Ser Ser Leu  
 690 695 700

Asn Glu Leu Gly Glu Arg Gln Leu Val His Val Val Lys Trp Ala Lys  
 705 710 715 720

Ala Leu Pro Gly Phe Arg Asn Leu His Val Asp Asp Gln Met Ala Val  
725 730 735

Ile Gln Tyr Ser Trp Met Gly Leu Met Val Phe Ala Met Gly Trp Arg  
740 745 750

Ser Phe Thr Asn Val Asn Ser Arg Met Leu Tyr Phe Ala Pro Asp Leu  
755 760 765

Val Phe Asn Glu Tyr Arg Met His Lys Ser Arg Met Tyr Ser Gln Cys  
770 775 780

Val Arg Met Arg His Leu Ser Gln Glu Phe Gly Trp Leu Gln Ile Thr  
785 790 795 800

Pro Gln Glu Phe Leu Cys Met Lys Ala Leu Leu Leu Phe Ser Ile Ile  
805 810 815

Pro Val Asp Gly Leu Lys Asn Gln Lys Phe Phe Asp Glu Leu Arg Met  
820 825 830

Asn Tyr Ile Lys Glu Leu Asp Arg Ile Ile Ala Cys Lys Arg Lys Asn  
835 840 845

Pro Thr Ser Cys Ser Arg Arg Phe Tyr Gln Leu Thr Lys Leu Leu Asp  
850 855 860

Ser Val Gln Pro Ile Ala Arg Glu Leu His Gln Phe Thr Phe Asp Leu  
865 870 875 880

Leu Ile Lys Ser His Met Val Ser Val Asp Phe Pro Glu Met Met Ala  
885 890 895

Glu Ile Ile Ser Val Gln Val Pro Lys Ile Leu Ser Gly Lys Val Lys  
900 905 910

Pro Ile Tyr Phe His Thr Gln  
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<210> 2  
<211> 375  
<212> PRT  
<213> Homo sapiens

<400> 2

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1 5 10 15

Cys Lys Ala Gly Phe Ala Gly Asp Asp Ala Pro Arg Ala Val Phe Pro  
20 25 30

Ser Ile Val Gly Arg Pro Arg His Gln Gly Val Met Val Gly Met Gly  
35 40 45

Gln Lys Asp Ser Tyr Val Gly Asp Glu Ala Gln Ser Lys Arg Gly Ile  
 50 55 60

Leu Thr Leu Lys Tyr Pro Ile Glu His Gly Ile Val Thr Asn Trp Asp  
 65 70 75 80

Asp Met Glu Lys Ile Trp His His Thr Phe Tyr Asn Glu Leu Arg Val  
 85 90 95

Ala Pro Glu Glu His Pro Val Leu Leu Thr Glu Ala Pro Leu Asn Pro  
 100 105 110

Lys Ala Asn Arg Glu Lys Met Thr Gln Ile Met Phe Glu Thr Phe Asn  
 115 120 125

Thr Pro Ala Met Tyr Val Ala Ile Gln Ala Val Leu Ser Leu Tyr Ala  
 130 135 140

Ser Gly Arg Thr Thr Gly Ile Val Met Asp Ser Gly Asp Gly Val Thr  
 145 150 155 160

His Thr Val Pro Ile Tyr Glu Gly Tyr Ala Leu Pro His Ala Ile Leu  
 165 170 175

Arg Leu Asp Leu Ala Gly Arg Asp Leu Thr Asp Tyr Leu Met Lys Ile  
 180 185 190

Leu Thr Glu Arg Gly Tyr Ser Phe Thr Thr Thr Ala Glu Arg Glu Ile  
 195 200 205

Val Arg Asp Ile Lys Glu Lys Leu Cys Tyr Val Ala Leu Asp Phe Glu  
 210 215 220

Gln Glu Met Ala Thr Ala Ala Ser Ser Ser Ser Leu Glu Lys Ser Tyr  
 225 230 235 240

Glu Leu Pro Asp Gly Gln Val Ile Thr Ile Gly Asn Glu Arg Phe Arg  
 245 250 255

Cys Pro Glu Ala Leu Phe Gln Pro Ser Phe Leu Gly Met Glu Ser Cys  
 260 265 270

Gly Ile His Glu Thr Thr Phe Asn Ser Ile Met Lys Cys Asp Val Asp  
 275 280 285

Ile Arg Lys Asp Leu Tyr Ala Asn Thr Val Leu Ser Gly Gly Thr Thr  
 290 295 300

Met Tyr Pro Gly Ile Ala Asp Arg Met Gln Lys Glu Ile Thr Ala Leu  
 305 310 315 320

Ala Pro Ser Thr Met Lys Ile Lys Ile Ile Ala Pro Pro Glu Arg Lys  
325 330 335

Tyr Ser Val Trp Ile Gly Gly Ser Ile Leu Ala Ser Leu Ser Thr Phe  
340 345 350

Gln Gln Met Trp Ile Ser Lys Gln Glu Tyr Asp Glu Ser Gly Pro Ser  
355 360 365

Ile Val His Arg Lys Cys Phe  
370 375

<210> 3  
<211> 429  
<212> PRT  
<213> Homo sapiens

<400> 3

Met Ser Gly Gly Val Tyr Gly Gly Asp Glu Val Gly Ala Leu Val Phe  
1 5 10 15

Asp Ile Gly Ser Tyr Thr Val Arg Ala Gly Tyr Ala Gly Glu Asp Cys  
20 25 30

Pro Lys Val Asp Phe Pro Thr Ala Ile Gly Met Val Val Glu Arg Asp  
35 40 45

Asp Gly Ser Thr Leu Met Glu Ile Asp Gly Asp Lys Gly Lys Gln Gly  
50 55 60

Gly Pro Thr Tyr Tyr Ile Asp Thr Asn Ala Leu Arg Val Pro Arg Glu  
65 70 75 80

Asn Met Glu Ala Ile Ser Pro Leu Lys Asn Gly Met Val Glu Asp Trp  
85 90 95

Asp Ser Phe Gln Ala Ile Leu Asp His Thr Tyr Lys Met His Val Lys  
100 105 110

Ser Glu Ala Ser Leu His Pro Val Leu Met Ser Glu Ala Pro Trp Asn  
115 120 125

Thr Arg Ala Lys Arg Glu Lys Leu Thr Glu Leu Met Phe Glu His Tyr  
130 135 140

Asn Ile Pro Ala Phe Phe Leu Cys Lys Thr Ala Val Leu Thr Ala Phe  
145 150 155 160

Ala Asn Gly Arg Ser Thr Gly Leu Ile Leu Asp Ser Gly Ala Thr His  
165 170 175

Thr Thr Ala Ile Pro Val His Asp Gly Tyr Val Leu Gln Gln Gly Ile

180

185

190

Val Lys Ser Pro Leu Ala Gly Asp Phe Ile Thr Met Gln Cys Arg Glu  
 195 200 205

Leu Phe Gln Glu Met Asn Ile Glu Leu Val Pro Pro Tyr Met Ile Ala  
 210 215 220

Ser Lys Glu Ala Val Arg Glu Gly Ser Pro Ala Asn Trp Lys Arg Lys  
 225 230 235 240

Glu Lys Leu Pro Gln Val Thr Arg Ser Trp His Asn Tyr Met Cys Asn  
 245 250 255

Cys Val Ile Gln Asp Phe Gln Ala Ser Val Leu Gln Val Ser Asp Ser  
 260 265 270

Thr Tyr Asp Glu Gln Val Ala Ala Gln Met Pro Thr Val His Tyr Glu  
 275 280 285

Phe Pro Asn Gly Tyr Asn Cys Asp Phe Gly Ala Glu Arg Leu Lys Ile  
 290 295 300

Pro Glu Gly Leu Phe Asp Pro Ser Asn Val Lys Gly Leu Ser Gly Asn  
 305 310 315 320

Thr Met Leu Gly Val Ser His Val Val Thr Thr Ser Val Gly Met Cys  
 325 330 335

Asp Ile Asp Ile Arg Pro Gly Leu Tyr Gly Ser Val Ile Val Ala Gly  
 340 345 350

Gly Asn Thr Leu Ile Gln Ser Phe Thr Asp Arg Leu Asn Arg Glu Leu  
 355 360 365

Ser Gln Lys Thr Pro Pro Ser Met Arg Leu Lys Leu Ile Ala Asn Asn  
 370 375 380

Thr Thr Val Glu Arg Arg Phe Ser Ser Trp Ile Gly Gly Ser Ile Leu  
 385 390 395 400

Ala Ser Leu Gly Thr Phe Gln Gln Met Trp Ile Ser Lys Gln Glu Tyr  
 405 410 415

Glu Glu Gly Gly Lys Gln Cys Val Glu Arg Lys Cys Pro  
 420 425

<210> 4

<211> 204

<212> PRT

<213> Homo sapiens

<400> 4

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Met Gly Glu Ala Glu Val Gly Gly Gly Gly Ala Ala Gly Asp Lys Gly
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Pro Gly Glu Ala Ala Thr Ser Pro Ala Glu Glu Thr Val Val Trp Ser
      20      25      30

Pro Glu Val Glu Val Cys Leu Phe His Ala Met Leu Gly His Lys Pro
      35      40      45

Val Gly Val Asn Arg His Phe His Met Ile Cys Ile Arg Asp Lys Phe
50      55      60

Ser Gln Asn Ile Gly Arg Gln Val Pro Ser Lys Val Ile Trp Asp His
65      70      75      80

Leu Ser Thr Met Tyr Asp Met Gln Ala Leu His Glu Ser Glu Ile Leu
      85      90      95

Pro Phe Pro Asn Pro Glu Arg Asn Phe Val Leu Pro Glu Glu Ile Ile
      100      105      110

Gln Glu Val Arg Glu Gly Lys Val Met Ile Glu Glu Glu Met Lys Glu
      115      120      125

Glu Met Lys Glu Asp Val Asp Pro His Asn Gly Ala Asp Asp Val Phe
130      135      140

Ser Ser Ser Gly Ser Leu Gly Lys Ala Ser Glu Lys Ser Ser Lys Asp
145      150      155      160

Lys Glu Lys Asn Ser Ser Asp Leu Gly Cys Lys Glu Gly Ala Asp Lys
      165      170      175

Arg Lys Arg Ser Arg Val Thr Asp Lys Val Leu Thr Ala Asn Ser Asn
      180      185      190

Pro Ser Ser Pro Ser Ala Ala Lys Arg Arg Arg Thr
      195      200

<210> 5
<211> 467
<212> PRT
<213> Homo sapiens

<400> 5

Met Ala Thr Gly Ala Asp Val Arg Asp Ile Leu Glu Leu Gly Gly Pro
1      5      10      15

Glu Gly Asp Ala Ala Ser Gly Thr Ile Ser Lys Lys Asp Ile Ile Asn
20      25      30

Pro Asp Lys Lys Lys Ser Lys Lys Ser Ser Glu Thr Leu Thr Phe Lys

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35

40

45

Arg Pro Glu Gly Met His Arg Glu Val Tyr Ala Leu Leu Tyr Ser Asp  
 50 55 60

Lys Lys Asp Ala Pro Pro Leu Leu Pro Ser Asp Thr Gly Gln Gly Tyr  
 65 70 75 80

Arg Thr Val Lys Ala Lys Leu Gly Ser Lys Lys Val Arg Pro Trp Lys  
 85 90 95

Trp Met Pro Phe Thr Asn Pro Ala Arg Lys Asp Gly Ala Met Phe Phe  
 100 105 110

His Trp Arg Arg Ala Ala Glu Glu Gly Lys Asp Tyr Pro Phe Ala Arg  
 115 120 125

Phe Asn Lys Thr Val Gln Val Pro Val Tyr Ser Glu Gln Glu Tyr Gln  
 130 135 140

Leu Tyr Leu His Asp Asp Ala Trp Thr Lys Ala Glu Thr Asp His Leu  
 145 150 155 160

Phe Asp Leu Ser Arg Arg Phe Asp Leu Arg Phe Val Val Ile His Asp  
 165 170 175

Arg Tyr Asp His Gln Gln Phe Lys Lys Arg Ser Val Glu Asp Leu Lys  
 180 185 190

Glu Arg Tyr Tyr His Ile Cys Ala Lys Leu Ala Asn Val Arg Ala Val  
 195 200 205

Pro Gly Thr Asp Leu Lys Ile Pro Val Phe Asp Ala Gly His Glu Arg  
 210 215 220

Arg Arg Lys Glu Gln Leu Glu Arg Leu Tyr Asn Arg Thr Pro Glu Gln  
 225 230 235 240

Val Ala Glu Glu Glu Tyr Leu Leu Gln Glu Leu Arg Lys Ile Glu Ala  
 245 250 255

Arg Lys Lys Glu Arg Glu Lys Arg Ser Gln Asp Leu Gln Lys Leu Ile  
 260 265 270

Thr Ala Ala Asp Thr Thr Ala Glu Gln Arg Arg Thr Glu Arg Lys Ala  
 275 280 285

Pro Lys Lys Lys Leu Pro Gln Lys Lys Glu Ala Glu Lys Pro Ala Val  
 290 295 300

Pro Glu Thr Ala Gly Ile Lys Phe Pro Asp Phe Lys Ser Ala Gly Val  
 305 310 315 320

Thr Leu Arg Ser Gln Arg Met Lys Leu Pro Ser Ser Val Gly Gln Lys  
325 330 335

Lys Ile Lys Ala Leu Glu Gln Met Leu Leu Glu Leu Gly Val Glu Leu  
340 345 350

Ser Pro Thr Pro Thr Glu Glu Leu Val His Met Phe Asn Glu Leu Arg  
355 360 365

Ser Asp Leu Val Leu Leu Tyr Glu Leu Lys Gln Ala Cys Ala Asn Cys  
370 375 380

Glu Tyr Glu Leu Gln Met Leu Arg His Arg His Glu Ala Leu Ala Arg  
385 390 395 400

Ala Gly Val Leu Gly Gly Pro Ala Thr Pro Ala Ser Gly Pro Gly Pro  
405 410 415

Ala Ser Ala Glu Pro Ala Val Thr Glu Pro Gly Leu Gly Pro Asp Pro  
420 425 430

Lys Asp Thr Ile Ile Asp Val Val Gly Ala Pro Leu Thr Pro Asn Ser  
435 440 445

Arg Lys Arg Arg Glu Ser Ala Ser Ser Ser Ser Ser Val Lys Lys Ala  
450 455 460

Lys Lys Pro  
465

<210> 6  
<211> 463  
<212> PRT  
<213> Homo sapiens  
  
<400> 6

Met Ala Thr Val Thr Ala Thr Thr Lys Val Pro Glu Ile Arg Asp Val  
1 5 10 15

Thr Arg Ile Glu Arg Ile Gly Ala His Ser His Ile Arg Gly Leu Gly  
20 25 30

Leu Asp Asp Ala Leu Glu Pro Arg Gln Ala Ser Gln Gly Met Val Gly  
35 40 45

Gln Leu Ala Ala Arg Arg Ala Ala Gly Val Val Leu Glu Met Ile Arg  
50 55 60

Glu Gly Lys Ile Ala Gly Arg Ala Val Leu Ile Ala Gly Gln Pro Gly  
65 70 75 80

Thr Gly Lys Thr Ala Ile Ala Met Gly Met Ala Gln Ala Leu Gly Pro  
 85 90 95

Asp Thr Pro Phe Thr Ala Ile Ala Gly Ser Glu Ile Phe Ser Leu Glu  
 100 105 110

Met Ser Lys Thr Glu Ala Leu Thr Gln Ala Phe Arg Arg Ser Ile Gly  
 115 120 125

Val Arg Ile Lys Glu Glu Thr Glu Ile Ile Glu Gly Glu Val Val Glu  
 130 135 140

Ile Gln Ile Asp Arg Pro Ala Thr Gly Thr Gly Ser Lys Val Gly Lys  
 145 150 155 160

Leu Thr Leu Lys Thr Thr Glu Met Glu Thr Ile Tyr Asp Leu Gly Thr  
 165 170 175

Lys Met Ile Glu Ser Leu Thr Lys Asp Lys Val Gln Ala Gly Asp Val  
 180 185 190

Ile Thr Ile Asp Lys Ala Thr Gly Lys Ile Ser Lys Leu Gly Arg Ser  
 195 200 205

Phe Thr Arg Ala Arg Asp Tyr Asp Ala Met Gly Ser Gln Thr Lys Phe  
 210 215 220

Val Gln Cys Pro Asp Gly Glu Leu Gln Lys Arg Lys Glu Val Val His  
 225 230 235 240

Thr Val Ser Leu His Glu Ile Asp Val Ile Asn Ser Arg Thr Gln Gly  
 245 250 255

Phe Leu Ala Leu Phe Ser Gly Asp Thr Gly Glu Ile Lys Ser Glu Val  
 260 265 270

Arg Glu Gln Ile Asn Ala Lys Val Ala Glu Trp Arg Glu Glu Gly Lys  
 275 280 285

Ala Glu Ile Ile Pro Gly Val Leu Phe Ile Asp Glu Val His Met Leu  
 290 295 300

Asp Ile Glu Ser Phe Ser Phe Leu Asn Arg Ala Leu Glu Ser Asp Met  
 305 310 315 320

Ala Pro Val Leu Ile Met Ala Thr Asn Arg Gly Ile Thr Arg Ile Arg  
 325 330 335

Gly Thr Ser Tyr Gln Ser Pro His Gly Ile Pro Ile Asp Leu Leu Asp  
 340 345 350

Arg Leu Leu Ile Val Ser Thr Thr Pro Tyr Ser Glu Lys Asp Thr Lys

355

360

365

Gln Ile Leu Arg Ile Arg Cys Glu Glu Glu Asp Val Glu Met Ser Glu  
 370 375 380

Asp Ala Tyr Thr Val Leu Thr Arg Ile Gly Leu Glu Thr Ser Leu Arg  
 385 390 395 400

Tyr Ala Ile Gln Leu Ile Thr Ala Ala Ser Leu Val Cys Arg Lys Arg  
 405 410 415

Lys Gly Thr Glu Val Gln Val Asp Asp Ile Lys Arg Val Tyr Ser Leu  
 420 425 430

Phe Leu Asp Glu Ser Arg Ser Thr Gln Tyr Met Lys Glu Tyr Gln Asp  
 435 440 445

Ala Phe Leu Phe Asn Glu Leu Lys Gly Glu Thr Met Asp Thr Ser  
 450 455 460

<210> 7  
 <211> 3124  
 <212> PRT  
 <213> Homo sapiens

<400> 7

Met His His Gly Thr Gly Pro Gln Asn Val Gln His Gln Leu Gln Arg  
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Ser Arg Ala Cys Pro Gly Ser Glu Gly Glu Glu Gln Pro Ala His Pro  
 20 25 30

Asn Pro Pro Pro Ser Pro Ala Ala Pro Phe Ala Pro Ser Ala Ser Pro  
 35 40 45

Ser Ala Pro Gln Ser Pro Ser Tyr Gln Ile Gln Gln Leu Met Asn Arg  
 50 55 60

Ser Pro Ala Thr Gly Gln Asn Val Asn Ile Thr Leu Gln Ser Val Gly  
 65 70 75 80

Pro Val Val Gly Gly Asn Gln Gln Ile Thr Leu Ala Pro Leu Pro Leu  
 85 90 95

Pro Ser Pro Thr Ser Pro Gly Phe Gln Phe Ser Ala Gln Pro Arg Arg  
 100 105 110

Phe Glu His Gly Ser Pro Ser Tyr Ile Gln Val Thr Ser Pro Leu Ser  
 115 120 125

Gln Gln Val Gln Thr Gln Ser Pro Thr Gln Pro Ser Pro Gly Pro Gly  
 130 135 140

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      .      .
      .      .

Gln Ala Leu Gln Asn Val Arg Ala Gly Ala Pro Gly Pro Gly Leu Gly
145                               155                               160

Leu Cys Ser Ser Ser Pro Thr Gly Gly Phe Val Asp Ala Ser Val Leu
                               165                               170                               175

Val Arg Gln Ile Ser Leu Ser Pro Ser Ser Gly Gly His Phe Val Phe
                               180                               185                               190

Gln Asp Gly Ser Gly Leu Thr Gln Ile Ala Gln Gly Ala Gln Val Gln
195                               200                               205

Leu Gln His Pro Gly Thr Pro Ile Thr Val Arg Glu Arg Arg Pro Ser
210                               215                               220

Gln Pro His Thr Gln Ser Gly Gly Thr Ile His His Leu Gly Pro Gln
225                               230                               235                               240

Ser Pro Ala Ala Ala Gly Gly Ala Gly Leu Gln Pro Leu Ala Ser Pro
                               245                               250                               255

Ser His Ile Thr Thr Ala Asn Leu Pro Pro Gln Ile Ser Ser Ile Ile
                               260                               265                               270

Gln Gly Gln Leu Val Gln Gln Gln Gln Val Leu Gln Gly Pro Pro Leu
275                               280                               285

Pro Arg Pro Leu Gly Phe Glu Arg Thr Pro Gly Val Leu Leu Pro Gly
290                               295                               300

Ala Gly Gly Ala Ala Gly Phe Gly Met Thr Ser Pro Pro Pro Pro Thr
305                               310                               315                               320

Ser Pro Ser Arg Thr Ala Val Pro Pro Gly Leu Ser Ser Leu Pro Leu
                               325                               330                               335

Thr Ser Val Gly Asn Thr Gly Met Lys Lys Val Pro Lys Lys Leu Glu
                               340                               345                               350

Glu Ile Pro Pro Ala Ser Pro Glu Met Ala Gln Met Arg Lys Gln Cys
355                               360                               365

Leu Asp Tyr His Tyr Gln Glu Met Gln Ala Leu Lys Glu Val Phe Lys
370                               375                               380

Glu Tyr Leu Ile Glu Leu Phe Phe Leu Gln His Phe Gln Gly Asn Met
385                               390                               395                               400

Met Asp Phe Leu Ala Phe Lys Lys Lys His Tyr Ala Pro Leu Gln Ala
                               405                               410                               415

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Tyr Leu Arg Gln Asn Asp Leu Asp Ile Glu Glu Glu Glu Glu Glu Glu  
 420 425 430

Glu Glu Glu Glu Glu Lys Ser Glu Val Ile Asn Asp Glu Gln Gln Ala  
 435 440 445

Leu Ala Gly Ser Leu Val Ala Gly Ala Gly Ser Thr Val Glu Thr Asp  
 450 455 460

Leu Phe Lys Arg Gln Gln Ala Met Pro Ser Thr Gly Met Ala Glu Gln  
 465 470 475 480

Ser Lys Arg Pro Arg Leu Glu Val Gly His Gln Gly Val Val Phe Gln  
 485 490 495

His Pro Gly Ala Asp Ala Gly Val Pro Leu Gln Gln Leu Met Pro Thr  
 500 505 510

Ala Gln Gly Gly Met Pro Pro Thr Pro Gln Ala Ala Gln Leu Ala Gly  
 515 520 525

Gln Arg Gln Ser Gln Gln Gln Tyr Asp Pro Ser Thr Gly Pro Pro Val  
 530 535 540

Gln Asn Ala Ala Ser Leu His Thr Pro Leu Pro Gln Leu Pro Gly Arg  
 545 550 555 560

Leu Pro Pro Ala Gly Val Pro Thr Ala Ala Leu Ser Ser Ala Leu Gln  
 565 570 575

Phe Ala Gln Gln Pro Gln Val Val Glu Ala Gln Thr Gln Leu Gln Ile  
 580 585 590

Pro Val Lys Thr Gln Gln Pro Asn Val Pro Ile Pro Ala Pro Pro Ser  
 595 600 605

Ser Gln Leu Pro Ile Pro Pro Ser Gln Pro Ala Gln Leu Ala Leu His  
 610 615 620

Val Pro Thr Pro Gly Lys Val Gln Val Gln Ala Ser Gln Leu Ser Ser  
 625 630 635 640

Leu Pro Gln Met Val Ala Ser Thr Arg Leu Pro Val Asp Pro Ala Pro  
 645 650 655

Pro Cys Pro Arg Pro Leu Pro Thr Ser Ser Thr Ser Ser Leu Ala Pro  
 660 665 670

Val Ser Gly Ser Gly Pro Gly Pro Ser Pro Ala Arg Ser Ser Pro Val  
 675 680 685

Asn Arg Pro Ser Ser Ala Thr Asn Lys Ala Leu Ser Pro Val Thr Ser

690

695

700

Arg Thr Pro Gly Val Val Ala Ser Ala Pro Thr Lys Pro Gln Ser Pro  
705 710 715 720

Ala Gln Asn Ala Thr Ser Ser Gln Asp Ser Ser Gln Asp Thr Leu Thr  
725 730 735

Glu Gln Ile Thr Leu Glu Asn Gln Val His Gln Arg Ile Ala Glu Leu  
740 745 750

Arg Lys Ala Gly Leu Trp Ser Gln Arg Arg Leu Pro Lys Leu Gln Glu  
755 760 765

Ala Pro Arg Pro Lys Ser His Trp Asp Tyr Leu Leu Glu Glu Met Gln  
770 775 780

Trp Met Ala Thr Asp Phe Ala Gln Glu Arg Arg Trp Lys Val Ala Ala  
785 790 795 800

Ala Lys Lys Leu Val Arg Thr Val Val Arg His His Glu Glu Lys Gln  
805 810 815

Leu Arg Glu Glu Arg Gly Lys Lys Glu Glu Gln Ser Arg Leu Arg Arg  
820 825 830

Ile Ala Ala Ser Thr Ala Arg Glu Ile Glu Cys Phe Trp Ser Asn Ile  
835 840 845

Glu Gln Val Val Glu Ile Lys Leu Arg Val Glu Leu Glu Glu Lys Arg  
850 855 860

Lys Lys Ala Leu Asn Leu Gln Lys Val Ser Arg Arg Gly Lys Glu Leu  
865 870 875 880

Arg Pro Lys Gly Phe Asp Ala Leu Gln Glu Ser Ser Leu Asp Ser Gly  
885 890 895

Met Ser Gly Arg Lys Arg Lys Ala Ser Ile Ser Leu Thr Asp Asp Glu  
900 905 910

Val Asp Asp Glu Glu Glu Thr Ile Glu Glu Glu Glu Ala Asn Glu Gly  
915 920 925

Val Val Asp His Gln Thr Glu Leu Ser Asn Leu Ala Lys Glu Ala Glu  
930 935 940

Leu Pro Leu Leu Asp Leu Met Lys Leu Tyr Glu Gly Ala Phe Leu Pro  
945 950 955 960

Ser Ser Gln Trp Pro Arg Pro Lys Pro Asp Gly Glu Asp Thr Ser Gly  
965 970 975

Glu Glu Asp Ala Asp Asp Cys Pro Gly Asp Arg Glu Ser Arg Lys Asp  
 980 985 990

Leu Val Leu Ile Asp Ser Leu Phe Ile Met Asp Gln Phe Lys Ala Ala  
 995 1000 1005

Glu Arg Met Asn Ile Gly Lys Pro Asn Ala Lys Asp Ile Ala Asp  
 1010 1015 1020

Val Thr Ala Val Ala Glu Ala Ile Leu Pro Lys Gly Ser Ala Arg  
 1025 1030 1035

Val Thr Thr Ser Val Lys Phe Asn Ala Pro Ser Leu Leu Tyr Gly  
 1040 1045 1050

Ala Leu Arg Asp Tyr Gln Lys Ile Gly Leu Asp Trp Leu Ala Lys  
 1055 1060 1065

Leu Tyr Arg Lys Asn Leu Asn Gly Ile Leu Ala Asp Glu Ala Gly  
 1070 1075 1080

Leu Gly Lys Thr Val Gln Ile Ile Ala Phe Phe Ala His Leu Ala  
 1085 1090 1095

Cys Asn Glu Gly Asn Trp Gly Pro His Leu Val Val Val Arg Ser  
 1100 1105 1110

Cys Asn Ile Leu Lys Trp Glu Leu Glu Leu Lys Arg Trp Cys Pro  
 1115 1120 1125

Gly Leu Lys Ile Leu Ser Tyr Ile Gly Ser His Arg Glu Leu Lys  
 1130 1135 1140

Ala Lys Arg Gln Glu Trp Ala Glu Pro Asn Ser Phe His Val Cys  
 1145 1150 1155

Ile Thr Ser Tyr Thr Gln Phe Phe Arg Gly Leu Thr Ala Phe Thr  
 1160 1165 1170

Arg Val Arg Trp Lys Cys Leu Val Ile Asp Glu Met Gln Arg Val  
 1175 1180 1185

Lys Gly Met Thr Glu Arg His Trp Glu Ala Val Phe Thr Leu Gln  
 1190 1195 1200

Ser Gln Gln Arg Leu Leu Leu Ile Asp Ser Pro Leu His Asn Thr  
 1205 1210 1215

Phe Leu Glu Leu Trp Thr Met Val His Phe Leu Val Pro Gly Ile  
 1220 1225 1230



Ser	Arg	Pro	Tyr	Leu	Ser	Ser	Pro	Leu	Arg	Ala	Pro	Ser	Glu	Glu
	1235					1240					1245			
Ser	Gln	Asp	Tyr	Tyr	His	Lys	Val	Val	Ile	Arg	Leu	His	Arg	Val
	1250					1255					1260			
Thr	Gln	Pro	Phe	Ile	Leu	Arg	Arg	Thr	Lys	Arg	Asp	Val	Glu	Lys
	1265					1270					1275			
Gln	Leu	Thr	Lys	Lys	Tyr	Glu	His	Val	Leu	Lys	Cys	Arg	Leu	Ser
	1280					1285					1290			
Asn	Arg	Gln	Lys	Ala	Leu	Tyr	Glu	Asp	Val	Ile	Leu	Gln	Pro	Gly
	1295					1300					1305			
Thr	Gln	Glu	Ala	Leu	Lys	Ser	Gly	His	Phe	Val	Asn	Val	Leu	Ser
	1310					1315					1320			
Ile	Leu	Val	Arg	Leu	Gln	Arg	Ile	Cys	Asn	His	Pro	Gly	Leu	Val
	1325					1330					1335			
Glu	Pro	Arg	His	Pro	Gly	Ser	Ser	Tyr	Val	Ala	Gly	Pro	Leu	Glu
	1340					1345					1350			
Tyr	Pro	Ser	Ala	Ser	Leu	Ile	Leu	Lys	Ala	Leu	Glu	Arg	Asp	Phe
	1355					1360					1365			
Trp	Lys	Glu	Ala	Asp	Leu	Ser	Met	Phe	Asp	Leu	Ile	Gly	Leu	Glu
	1370					1375					1380			
Asn	Lys	Ile	Thr	Arg	His	Glu	Ala	Glu	Leu	Leu	Ser	Lys	Lys	Lys
	1385					1390					1395			
Ile	Pro	Arg	Lys	Leu	Met	Glu	Glu	Ile	Ser	Thr	Ser	Ala	Ala	Pro
	1400					1405					1410			
Ala	Ala	Arg	Pro	Ala	Ala	Ala	Lys	Leu	Lys	Ala	Ser	Arg	Leu	Phe
	1415					1420					1425			
Gln	Pro	Val	Gln	Tyr	Gly	Gln	Lys	Pro	Glu	Gly	Arg	Thr	Val	Ala
	1430					1435					1440			
Phe	Pro	Ser	Thr	His	Pro	Pro	Arg	Thr	Ala	Ala	Pro	Thr	Thr	Ala
	1445					1450					1455			
Ser	Ala	Ala	Pro	Gln	Gly	Pro	Leu	Arg	Gly	Arg	Pro	Pro	Ile	Ala
	1460					1465					1470			
Thr	Phe	Ser	Ala	Asn	Pro	Glu	Ala	Lys	Ala	Ala	Ala	Ala	Pro	Phe
	1475					1480					1485			

Gln Thr	Ser Gln Ala Ser	Ala	Ser Ala Pro Arg	His	Gln Pro Ala
1490		1495		1500	
Ser Ala	Ser Ser Thr Ala	Ala	Ser Pro Ala His	Pro	Ala Lys Leu
1505		1510		1515	
Arg Ala	Gln Thr Thr Ala	Gln	Ala Phe Thr Pro	Gly	Gln Pro Pro
1520		1525		1530	
Pro Gln	Pro Gln Ala Pro	Ser	His Ala Ala Gly	Gln	Ser Ala Leu
1535		1540		1545	
Pro Gln	Arg Leu Val Leu	Pro	Ser Gln Ala Gln	Ala	Arg Leu Pro
1550		1555		1560	
Ser Gly	Glu Val Val Lys	Ile	Ala Gln Leu Ala	Ser	Ile Thr Gly
1565		1570		1575	
Pro Gln	Ser Arg Val Ala	Gln	Pro Glu Thr Pro	Val	Thr Leu Gln
1580		1585		1590	
Phe Gln	Gly Ser Lys Phe	Thr	Leu Ser His Ser	Gln	Phe Arg Gln
1595		1600		1605	
Phe Thr	Ala Gly Gln Pro	Leu	Gln Leu Gln Gly	Ser	Val Leu Gln
1610		1615		1620	
Ile Val	Ser Ala Pro Gly	Gln	Pro Tyr Leu Arg	Ala	Pro Gly Pro
1625		1630		1635	
Val Val	Met Gln Thr Val	Ser	Gln Ala Gly Ala	Val	His Gly Ala
1640		1645		1650	
Leu Gly	Ser Lys Pro Pro	Ala	Gly Gly Pro Ser	Pro	Ala Pro Leu
1655		1660		1665	
Thr Pro	Gln Val Gly Val	Pro	Gly Arg Val Ala	Val	Asn Ala Leu
1670		1675		1680	
Ala Val	Gly Glu Pro Gly	Thr	Ala Ser Lys Pro	Ala	Ser Pro Ile
1685		1690		1695	
Gly Gly	Pro Thr Gln Glu	Glu	Lys Thr Arg Leu	Leu	Lys Glu Arg
1700		1705		1710	
Leu Asp	Gln Ile Tyr Leu	Val	Asn Glu Arg Arg	Cys	Ser Gln Ala
1715		1720		1725	
Pro Val	Tyr Gly Arg Asp	Leu	Leu Arg Ile Cys	Ala	Leu Pro Ser
1730		1735		1740	
His Gly	Arg Val Gln Trp	Arg	Gly Ser Leu Asp	Gly	Arg Arg Gly

1745						1750						1755			
Lys	Glu	Ala	Gly	Pro	Ala	His	Ser	Tyr	Thr	Ser	Ser	Ser	Glu	Ser	
1760						1765					1770				
Pro	Ser	Glu	Leu	Met	Leu	Thr	Leu	Cys	Arg	Cys	Gly	Glu	Ser	Leu	
1775						1780					1785				
Gln	Asp	Val	Ile	Asp	Arg	Val	Ala	Phe	Val	Ile	Pro	Pro	Val	Val	
1790						1795					1800				
Ala	Ala	Pro	Pro	Ser	Leu	Arg	Val	Pro	Arg	Pro	Pro	Pro	Leu	Tyr	
1805						1810					1815				
Ser	His	Arg	Met	Arg	Ile	Leu	Arg	Gln	Gly	Leu	Arg	Glu	His	Ala	
1820						1825					1830				
Ala	Pro	Tyr	Phe	Gln	Gln	Leu	Arg	Gln	Thr	Thr	Ala	Pro	Arg	Leu	
1835						1840					1845				
Leu	Gln	Phe	Pro	Glu	Leu	Arg	Leu	Val	Gln	Phe	Asp	Ser	Gly	Lys	
1850						1855					1860				
Leu	Glu	Ala	Leu	Ala	Ile	Leu	Leu	Gln	Lys	Leu	Lys	Ser	Glu	Gly	
1865						1870					1875				
Arg	Arg	Val	Leu	Ile	Leu	Ser	Gln	Met	Ile	Leu	Met	Leu	Asp	Ile	
1880						1885					1890				
Leu	Glu	Met	Phe	Leu	Asn	Phe	His	Tyr	Leu	Thr	Tyr	Val	Arg	Ile	
1895						1900					1905				
Asp	Glu	Asn	Ala	Ser	Ser	Glu	Gln	Arg	Gln	Glu	Leu	Met	Arg	Ser	
1910						1915					1920				
Phe	Asn	Arg	Asp	Arg	Arg	Ile	Phe	Cys	Ala	Ile	Leu	Ser	Thr	His	
1925						1930					1935				
Ser	Arg	Thr	Thr	Gly	Ile	Asn	Leu	Val	Glu	Ala	Asp	Thr	Val	Val	
1940						1945					1950				
Phe	Tyr	Asp	Asn	Asp	Leu	Asn	Pro	Val	Met	Asp	Ala	Lys	Ala	Gln	
1955						1960					1965				
Glu	Trp	Cys	Asp	Arg	Ile	Gly	Arg	Cys	Lys	Asp	Ile	His	Ile	Tyr	
1970						1975					1980				
Arg	Leu	Val	Ser	Gly	Asn	Ser	Ile	Glu	Glu	Lys	Leu	Leu	Lys	Asn	
1985						1990					1995				
Gly	Thr	Lys	Asp	Leu	Ile	Arg	Glu	Val	Ala	Ala	Gln	Gly	Asn	Asp	
2000						2005					2010				

Tyr	Ser	Met	Ala	Phe	Leu	Thr	Gln	Arg	Thr	Ile	Gln	Glu	Leu	Phe
2015						2020					2025			
Glu	Val	Tyr	Ser	Pro	Met	Asp	Asp	Ala	Gly	Phe	Pro	Val	Lys	Ala
2030						2035					2040			
Glu	Glu	Phe	Val	Val	Leu	Ser	Gln	Glu	Pro	Ser	Val	Thr	Glu	Thr
2045						2050					2055			
Ile	Ala	Pro	Lys	Ile	Ala	Arg	Pro	Phe	Ile	Glu	Ala	Leu	Lys	Ser
2060						2065					2070			
Ile	Glu	Tyr	Leu	Glu	Glu	Asp	Ala	Gln	Lys	Ser	Ala	Gln	Glu	Gly
2075						2080					2085			
Val	Leu	Gly	Pro	His	Thr	Asp	Ala	Leu	Ser	Ser	Asp	Ser	Glu	Asn
2090						2095					2100			
Met	Pro	Cys	Asp	Glu	Glu	Pro	Ser	Gln	Leu	Glu	Glu	Leu	Ala	Asp
2105						2110					2115			
Phe	Met	Glu	Gln	Leu	Thr	Pro	Ile	Glu	Lys	Tyr	Ala	Leu	Asn	Tyr
2120						2125					2130			
Leu	Glu	Leu	Phe	His	Thr	Ser	Ile	Glu	Gln	Glu	Lys	Glu	Arg	Asn
2135						2140					2145			
Ser	Glu	Asp	Ala	Val	Met	Thr	Ala	Val	Arg	Ala	Trp	Glu	Phe	Trp
2150						2155					2160			
Asn	Leu	Lys	Thr	Leu	Gln	Glu	Arg	Glu	Ala	Arg	Leu	Arg	Leu	Glu
2165						2170					2175			
Gln	Glu	Glu	Ala	Glu	Leu	Leu	Thr	Tyr	Thr	Arg	Glu	Asp	Ala	Tyr
2180						2185					2190			
Ser	Met	Glu	Tyr	Val	Tyr	Glu	Asp	Val	Asp	Gly	Gln	Thr	Glu	Val
2195						2200					2205			
Met	Pro	Leu	Trp	Thr	Pro	Pro	Thr	Pro	Pro	Gln	Asp	Asp	Ser	Asp
2210						2215					2220			
Ile	Tyr	Leu	Asp	Ser	Val	Met	Cys	Leu	Met	Tyr	Glu	Ala	Thr	Pro
2225						2230					2235			
Ile	Pro	Glu	Ala	Lys	Leu	Pro	Pro	Val	Tyr	Val	Arg	Lys	Glu	Arg
2240						2245					2250			
Lys	Arg	His	Lys	Thr	Asp	Pro	Ser	Ala	Ala	Gly	Arg	Lys	Lys	Lys
2255						2260					2265			

Gln	Arg	His	Gly	Glu	Ala	Val	Val	Pro	Pro	Arg	Ser	Leu	Phe	Asp
2270						2275					2280			
Arg	Ala	Thr	Pro	Gly	Leu	Leu	Lys	Ile	Arg	Arg	Glu	Gly	Lys	Glu
2285						2290					2295			
Gln	Lys	Lys	Asn	Ile	Leu	Leu	Lys	Gln	Gln	Val	Pro	Phe	Ala	Lys
2300						2305					2310			
Pro	Leu	Pro	Thr	Phe	Ala	Lys	Pro	Thr	Ala	Glu	Pro	Gly	Gln	Asp
2315						2320					2325			
Asn	Pro	Glu	Trp	Leu	Ile	Ser	Glu	Asp	Trp	Ala	Leu	Leu	Gln	Ala
2330						2335					2340			
Val	Lys	Gln	Leu	Leu	Glu	Leu	Pro	Leu	Asn	Leu	Thr	Ile	Val	Ser
2345						2350					2355			
Pro	Ala	His	Thr	Pro	Asn	Trp	Asp	Leu	Val	Ser	Asp	Val	Val	Asn
2360						2365					2370			
Ser	Cys	Ser	Arg	Ile	Tyr	Arg	Ser	Ser	Lys	Gln	Cys	Arg	Asn	Arg
2375						2380					2385			
Tyr	Glu	Asn	Val	Ile	Ile	Pro	Arg	Glu	Glu	Gly	Lys	Ser	Lys	Asn
2390						2395					2400			
Asn	Arg	Pro	Leu	Arg	Thr	Ser	Gln	Ile	Tyr	Ala	Gln	Asp	Glu	Asn
2405						2410					2415			
Ala	Thr	His	Thr	Gln	Leu	Tyr	Thr	Ser	His	Phe	Asp	Leu	Met	Lys
2420						2425					2430			
Met	Thr	Ala	Gly	Lys	Arg	Ser	Pro	Pro	Ile	Lys	Pro	Leu	Leu	Gly
2435						2440					2445			
Met	Asn	Pro	Phe	Gln	Lys	Asn	Pro	Lys	His	Ala	Ser	Val	Leu	Ala
2450						2455					2460			
Glu	Ser	Gly	Ile	Asn	Tyr	Asp	Lys	Pro	Leu	Pro	Pro	Ile	Gln	Val
2465						2470					2475			
Ala	Ser	Leu	Arg	Ala	Glu	Arg	Ile	Ala	Lys	Glu	Lys	Lys	Ala	Leu
2480						2485					2490			
Ala	Asp	Gln	Gln	Lys	Ala	Gln	Gln	Pro	Ala	Val	Ala	Gln	Pro	Pro
2495						2500					2505			
Pro	Pro	Gln	Pro	Gln	Pro	Pro	Pro	Pro	Pro	Gln	Gln	Pro	Pro	Pro
2510						2515					2520			

Pro	Leu	Pro	Gln	Pro	Gln	Ala	Ala	Gly	Ser	Gln	Pro	Pro	Ala	Gly
	2525					2530					2535			
Pro	Pro	Ala	Val	Gln	Pro	Gln	Pro	Gln	Pro	Gln	Pro	Gln	Thr	Gln
	2540					2545					2550			
Pro	Gln	Pro	Val	Gln	Ala	Pro	Ala	Lys	Ala	Gln	Pro	Ala	Ile	Thr
	2555					2560					2565			
Thr	Gly	Gly	Ser	Ala	Ala	Val	Leu	Ala	Gly	Thr	Ile	Lys	Thr	Ser
	2570					2575					2580			
Val	Thr	Gly	Thr	Ser	Met	Pro	Thr	Gly	Ala	Val	Ser	Gly	Asn	Val
	2585					2590					2595			
Ile	Val	Asn	Thr	Ile	Ala	Gly	Val	Pro	Ala	Ala	Thr	Phe	Gln	Ser
	2600					2605					2610			
Ile	Asn	Lys	Arg	Leu	Ala	Ser	Pro	Val	Ala	Pro	Gly	Ala	Leu	Thr
	2615					2620					2625			
Thr	Pro	Gly	Gly	Ser	Ala	Pro	Ala	Gln	Val	Val	His	Thr	Gln	Pro
	2630					2635					2640			
Pro	Pro	Arg	Ala	Val	Gly	Ser	Pro	Ala	Thr	Ala	Thr	Pro	Asp	Leu
	2645					2650					2655			
Val	Ser	Met	Ala	Thr	Thr	Gln	Gly	Val	Arg	Ala	Val	Thr	Ser	Val
	2660					2665					2670			
Thr	Ala	Ser	Ala	Val	Val	Thr	Thr	Asn	Leu	Thr	Pro	Val	Gln	Thr
	2675					2680					2685			
Pro	Ala	Arg	Ser	Leu	Val	Pro	Gln	Val	Ser	Gln	Ala	Thr	Gly	Val
	2690					2695					2700			
Gln	Leu	Pro	Gly	Lys	Thr	Ile	Thr	Pro	Ala	His	Phe	Gln	Leu	Leu
	2705					2710					2715			
Arg	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln
	2720					2725					2730			
Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln
	2735					2740					2745			
Gln	Thr	Thr	Thr	Thr	Ser	Gln	Val	Gln	Val	Pro	Gln	Ile	Gln	Gly
	2750					2755					2760			
Gln	Ala	Gln	Ser	Pro	Ala	Gln	Ile	Lys	Ala	Val	Gly	Lys	Leu	Thr
	2765					2770					2775			
Pro	Glu	His	Leu	Ile	Lys	Met	Gln	Lys	Gln	Lys	Leu	Gln	Met	Pro

2780		2785		2790
Pro Gln 2795	Pro Pro Pro Pro	Gln 2800	Ala Gln Ser Ala	Pro 2805
Ala Ala 2810	Gln Val Gln Val	Gln 2815	Thr Ser Gln Pro	Pro 2820
Ser Pro 2825	Gln Leu Thr Thr	Val 2830	Thr Ala Pro Arg	Pro 2835
Leu Thr 2840	Gly Thr Thr Val	Ala 2845	Asn Leu Gln Val	Ala 2850
Arg Val 2855	Pro Thr Ser Gln	Leu 2860	Gln Ser Gln Gly	Gln 2865
Gln Ala 2870	Pro Gln Pro Ala	Gln 2875	Val Pro Leu Pro	Lys 2880
Val Ser 2885	Val Pro Ala Ala	Val 2890	Val Ser Ser Pro	Gly 2895
Leu Pro 2900	Met Asn Val Ala	Gly 2905	Ile Ser Val Ala	Ile 2910
Gln Lys 2915	Ala Ala Gly Gln	Thr 2920	Val Val Ala Gln	Pro 2925
Gln Gln 2930	Leu Leu Lys Leu	Lys 2935	Gln Gln Ala Val	Gln 2940
Ala Ile 2945	Gln Pro Gln Ala	Ala 2950	Gln Gly Pro Ala	Thr 2955
Lys Ile 2960	Thr Ala Gln Gln	Ile 2965	Thr Thr Pro Gly	Ala 2970
Val Ala 2975	Tyr Ala Ala Gln	Pro 2980	Ala Leu Lys Thr	Gln 2985
Thr Pro 2990	Ile Ser Gln Ala	Gln 2995	Lys Leu Ala Gly	Ala 3000
Gln Thr 3005	Gln Ile Gln Val	Ala 3010	Lys Leu Pro Gln	Val 3015
Gln Thr 3020	Pro Val Ala Ser	Ile 3025	Gln Gln Val Ala	Ser 3030
Gln Ala 3035	Ser Pro Gln Thr	Val 3040	Ala Leu Thr Gln	Ala 3045

Gly Gln Gln Val Gln Met Ile Pro Ala Val Thr Ala Thr Ala Gln  
3050 3055 3060

Val Val Gln Gln Lys Leu Ile Gln Gln Gln Val Val Thr Thr Ala  
3065 3070 3075

Ser Ala Pro Leu Gln Thr Pro Gly Ala Pro Asn Pro Ala Gln Val  
3080 3085 3090

Pro Ala Ser Ser Asp Ser Pro Ser Gln Gln Pro Lys Leu Gln Met  
3095 3100 3105

Arg Val Pro Ala Val Arg Leu Lys Thr Pro Thr Lys Pro Pro Cys  
3110 3115 3120

Gln

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Met Ser Lys Leu Ser Phe Arg Ala Arg Ala Leu Asp Ala Ser Lys Pro  
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Leu Pro Val Phe Arg Cys Glu Asp Leu Pro Asp Leu His Glu Tyr Ala  
20 25 30

Ser Ile Asn Arg Ala Val Pro Gln Met Pro Thr Gly Met Glu Lys Glu  
35 40 45

Glu Glu Ser Glu His His Leu Gln Arg Ala Ile Ser Ala Gln Gln Val  
50 55 60

Tyr Gly Glu Lys Arg Asp Asn Met Val Ile Pro Val Pro Glu Ala Glu  
65 70 75 80

Ser Asn Ile Ala Tyr Tyr Glu Ser Ile Tyr Pro Gly Glu Phe Lys Met  
85 90 95

Pro Lys Gln Leu Ile His Ile Gln Pro Phe Ser Leu Asp Ala Glu Gln  
100 105 110

Pro Asp Tyr Asp Leu Asp Ser Glu Asp Glu Val Phe Val Asn Lys Leu  
115 120 125

Lys Lys Lys Met Asp Ile Cys Pro Leu Gln Phe Glu Glu Met Ile Asp  
130 135 140



Arg Leu Glu Lys Gly Ser Gly Gln Gln Pro Val Ser Leu Gln Glu Ala  
 145 150 155 160

Lys Leu Leu Leu Lys Glu Asp Asp Glu Leu Ile Arg Glu Val Tyr Glu  
 165 170 175

Tyr Trp Ile Lys Lys Arg Lys Asn Cys Arg Gly Pro Ser Leu Ile Pro  
 180 185 190

Ser Val Lys Gln Glu Lys Arg Asp Gly Ser Ser Thr Asn Asp Pro Tyr  
 195 200 205

Val Ala Phe Arg Arg Arg Thr Glu Lys Met Gln Thr Arg Lys Asn Arg  
 210 215 220

Lys Asn Asp Glu Ala Ser Tyr Glu Lys Met Leu Lys Leu Arg Arg Asp  
 225 230 235 240

Leu Ser Arg Ala Val Thr Ile Leu Glu Met Ile Lys Arg Arg Glu Lys  
 245 250 255

Ser Lys Arg Glu Leu Leu His Leu Thr Leu Glu Ile Met Glu Lys Arg  
 260 265 270

Tyr Asn Leu Gly Asp Tyr Asn Gly Glu Ile Met Ser Glu Val Met Ala  
 275 280 285

Gln Arg Gln Pro Met Lys Pro Thr Tyr Ala Ile Pro Ile Ile Pro Ile  
 290 295 300

Thr Asn Ser Ser Gln Phe Lys His Gln Glu Ala Met Asp Val Lys Glu  
 305 310 315 320

Phe Lys Val Asn Lys Gln Asp Lys Ala Asp Leu Ile Arg Pro Lys Arg  
 325 330 335

Lys Tyr Glu Lys Lys Pro Lys Val Leu Pro Ser Ser Ala Ala Ala Thr  
 340 345 350

Pro Gln Gln Thr Ser Pro Ala Ala Leu Pro Val Phe Asn Ala Lys Asp  
 355 360 365

Leu Asn Gln Tyr Asp Phe Pro Ser Ser Asp Glu Glu Pro Leu Ser Gln  
 370 375 380

Val Leu Ser Gly Ser Ser Glu Ala Glu Glu Asp Asn Asp Pro Asp Gly  
 385 390 395 400

Pro Phe Ala Phe Arg Arg Lys Ala Gly Cys Gln Tyr Tyr Ala Pro His  
 405 410 415

Leu Asp Gln Thr Gly Asn Trp Pro Trp Thr Ser Pro Lys Asp Gly Gly

420

425

430

Leu Gly Asp Val Arg Tyr Arg Tyr Cys Leu Thr Thr Leu Thr Val Pro  
 435 440 445

Gln Arg Cys Ile Gly Phe Ala Arg Arg Arg Val Gly Arg Gly Gly Arg  
 450 455 460

Val Leu Leu Asp Arg Ala His Ser Asp Tyr Asp Ser Val Phe His His  
 465 470 475 480

Leu Asp Leu Glu Met Leu Ser Ser Pro Gln His Ser Pro Val Asn Gln  
 485 490 495

Phe Ala Asn Thr Ser Glu Thr Asn Thr Ser Asp Lys Ser Phe Ser Lys  
 500 505 510

Asp Leu Ser Gln Ile Leu Val Asn Ile Lys Ser Cys Arg Trp Arg His  
 515 520 525

Phe Arg Pro Arg Thr Pro Ser Leu His Asp Ser Asp Asn Asp Glu Leu  
 530 535 540

Ser Cys Arg Lys Leu Tyr Arg Ser Ile Asn Arg Thr Gly Thr Ala Gln  
 545 550 555 560

Pro Gly Thr Gln Thr Cys Ser Thr Ser Thr Gln Ser Lys Ser Ser Ser  
 565 570 575

Gly Ser Ala His Phe Ala Phe Thr Ala Glu Gln Tyr Gln Gln His Gln  
 580 585 590

Gln Gln Leu Ala Leu Met Gln Lys Gln Gln Leu Ala Gln Ile Gln Gln  
 595 600 605

Gln Gln Ala Asn Ser Asn Ser Ser Thr Asn Thr Ser Gln Asn Leu Ala  
 610 615 620

Ser Asn Gln Gln Lys Ser Gly Phe Arg Leu Asn Ile Gln Gly Leu Glu  
 625 630 635 640

Arg Thr Leu Gln Gly Phe Val Ser Lys Thr Leu Asp Ser Ala Ser Ala  
 645 650 655

Gln Phe Ala Ala Ser Ala Leu Val Thr Ser Glu Gln Leu Met Gly Phe  
 660 665 670

Lys Met Lys Asp Asp Val Val Leu Gly Ile Gly Val Asn Gly Val Leu  
 675 680 685

Pro Ala Ser Gly Val Tyr Lys Gly Leu His Leu Ser Ser Thr Thr Pro  
 690 695 700

Thr Ala Leu Val His Thr Ser Pro Ser Thr Ala Gly Ser Ala Leu Leu  
705 710 715 720

Gln Pro Ser Asn Ile Thr Gln Thr Ser Ser Ser His Ser Ala Leu Ser  
725 730 735

His Gln Val Thr Ala Ala Asn Ser Ala Thr Thr Gln Val Leu Ile Gly  
740 745 750

Asn Asn Ile Arg Leu Thr Val Pro Ser Ser Val Ala Thr Val Asn Ser  
755 760 765

Ile Ala Pro Ile Asn Ala Arg His Ile Pro Arg Thr Leu Ser Ala Val  
770 775 780

Pro Ser Ser Ala Leu Lys Leu Ala Ala Ala Ala Asn Cys Gln Val Ser  
785 790 795 800

Lys Val Pro Ser Ser Ser Ser Val Asp Ser Val Pro Arg Glu Asn His  
805 810 815

Glu Ser Glu Lys Pro Ala Leu Asn Asn Ile Ala Asp Asn Thr Val Ala  
820 825 830

Met Glu Val Thr  
835

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<212> PRT  
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Met Phe Lys Arg Met Ala Glu Phe Gly Pro Asp Ser Gly Gly Arg Val  
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Lys Gly Val Thr Ile Val Lys Pro Ile Val Tyr Gly Asn Val Ala Arg  
20 25 30

Tyr Phe Gly Lys Lys Arg Glu Glu Asp Gly His Thr His Gln Trp Thr  
35 40 45

Val Tyr Val Lys Pro Tyr Arg Asn Glu Asp Met Ser Ala Tyr Val Lys  
50 55 60

Lys Ile Gln Phe Lys Leu His Glu Ser Tyr Gly Asn Pro Leu Arg Val  
65 70 75 80

Val Thr Lys Pro Pro Tyr Glu Ile Thr Glu Thr Gly Trp Gly Glu Phe  
85 90 95

Glu Ile Ile Ile Lys Ile Phe Phe Ile Asp Pro Asn Glu Arg Pro Val  
100 105 110

Thr Leu Tyr His Leu Leu Lys Leu Phe Gln Ser Asp Thr Asn Ala Met  
115 120 125

Leu Gly Lys Lys Thr Val Val Ser Glu Phe Tyr Asp Glu Met Ile Phe  
130 135 140

Gln Asp Pro Thr Ala Met Met Gln Gln Leu Leu Thr Thr Ser Arg Gln  
145 150 155 160

Leu Thr Leu Gly Ala Tyr Lys His Glu Thr Glu Phe Ala Glu Leu Glu  
165 170 175

Val Lys Thr Arg Glu Lys Leu Glu Ala Ala Lys Lys Lys Thr Ser Phe  
180 185 190

Glu Ile Ala Glu Leu Lys Glu Arg Leu Lys Ala Ser Arg Glu Thr Ile  
195 200 205

Asn Cys Leu Lys Asn Glu Ile Arg Lys Leu Glu Glu Asp Asp Gln Ala  
210 215 220

Lys Asp Ile  
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<400> 10

Met Ala Gln Thr Gln Gly Thr Arg Arg Lys Val Cys Tyr Tyr Tyr Asp  
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Gly Asp Val Gly Asn Tyr Tyr Tyr Gly Gln Gly His Pro Met Lys Pro  
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His Arg Ile Arg Met Thr His Asn Leu Leu Leu Asn Tyr Gly Leu Tyr  
35 40 45

Arg Lys Met Glu Ile Tyr Arg Pro His Lys Ala Asn Ala Glu Glu Met  
50 55 60

Thr Lys Tyr His Ser Asp Asp Tyr Ile Lys Phe Leu Arg Ser Ile Arg  
65 70 75 80

Pro Asp Asn Met Ser Glu Tyr Ser Lys Gln Met Gln Arg Phe Asn Val  
85 90 95

Gly Glu Asp Cys Pro Val Phe Asp Gly Leu Phe Glu Phe Cys Gln Leu  
100 105 110

Ser Thr Gly Gly Ser Val Ala Ser Ala Val Lys Leu Asn Lys Gln Gln  
 115 120 125

Thr Asp Ile Ala Val Asn Trp Ala Gly Gly Leu His His Ala Lys Lys  
 130 135 140

Ser Glu Ala Ser Gly Phe Cys Tyr Val Asn Asp Ile Val Leu Ala Ile  
 145 150 155 160

Leu Glu Leu Leu Lys Tyr His Gln Arg Val Leu Tyr Ile Asp Ile Asp  
 165 170 175

Ile His His Gly Asp Gly Val Glu Glu Ala Phe Tyr Thr Thr Asp Arg  
 180 185 190

Val Met Thr Val Ser Phe His Lys Tyr Gly Glu Tyr Phe Pro Gly Thr  
 195 200 205

Gly Asp Leu Arg Asp Ile Gly Ala Gly Lys Gly Lys Tyr Tyr Ala Val  
 210 215 220

Asn Tyr Pro Leu Arg Asp Gly Ile Asp Asp Glu Ser Tyr Glu Ala Ile  
 225 230 235 240

Phe Lys Pro Val Met Ser Lys Val Met Glu Met Phe Gln Pro Ser Ala  
 245 250 255

Val Val Leu Gln Cys Gly Ser Asp Ser Leu Ser Gly Asp Arg Leu Gly  
 260 265 270

Cys Phe Asn Leu Thr Ile Lys Gly His Ala Lys Cys Val Glu Phe Val  
 275 280 285

Lys Ser Phe Asn Leu Pro Met Leu Met Leu Gly Gly Gly Gly Tyr Thr  
 290 295 300

Ile Arg Asn Val Ala Arg Cys Trp Thr Tyr Glu Thr Ala Val Ala Leu  
 305 310 315 320

Asp Thr Glu Ile Pro Asn Glu Leu Pro Tyr Asn Asp Tyr Phe Glu Tyr  
 325 330 335

Phe Gly Pro Asp Phe Lys Leu His Ile Ser Pro Ser Asn Met Thr Asn  
 340 345 350

Gln Asn Thr Asn Glu Tyr Leu Glu Lys Ile Lys Gln Arg Leu Phe Glu  
 355 360 365

Asn Leu Arg Met Leu Pro His Ala Pro Gly Val Gln Met Gln Ala Ile  
 370 375 380

Pro Glu Asp Ala Ile Pro Glu Glu Ser Gly Asp Glu Asp Glu Asp Asp  
385 390 395 400

Pro Asp Lys Arg Ile Ser Ile Cys Ser Ser Asp Lys Arg Ile Ala Cys  
405 410 415

Glu Glu Glu Phe Ser Asp Ser Glu Glu Glu Gly Glu Gly Gly Arg Lys  
420 425 430

Asn Ser Ser Asn Phe Lys Lys Ala Lys Arg Val Lys Thr Glu Asp Glu  
435 440 445

Lys Glu Lys Asp Pro Glu Glu Lys Lys Glu Val Thr Glu Glu Glu Lys  
450 455 460

Thr Lys Glu Glu Lys Pro Glu Ala Lys Gly Val Lys Glu Glu Val Lys  
465 470 475 480

Leu Ala

<210> 11  
<211> 1727  
<212> PRT  
<213> Homo sapiens

<400> 11

Ala Leu Leu His Phe Met Arg Glu Lys Glu Gln Glu Arg Glu Glu Gln  
1 5 10 15

Leu Met Glu Asp Lys Lys Arg Lys Lys Glu Asp Lys Lys Lys Lys Glu  
20 25 30

Ala Thr Gln Lys Val Thr Glu Gln Lys Thr Lys Val Pro Glu Val Thr  
35 40 45

Lys Pro Ser Leu Ser Gln Pro Thr Ala Ala Ser Pro Ile Gly Ser Ser  
50 55 60

Pro Ser Pro Pro Val Asn Gly Gly Asn Asn Ala Lys Arg Val Ala Val  
65 70 75 80

Pro Asn Gly Gln Pro Pro Ser Ala Ala Arg Tyr Met Pro Arg Glu Val  
85 90 95

Pro Pro Arg Phe Arg Cys Gln Gln Asp His Lys Val Leu Leu Lys Arg  
100 105 110

Gly Gln Pro Pro Pro Ser Cys Met Leu Leu Gly Gly Gly Ala Gly  
115 120 125

Pro Pro Pro Cys Thr Ala Pro Gly Ala Asn Pro Asn Asn Ala Gln Val

130

135

140

Thr Gly Ala Leu Leu Gln Ser Glu Ser Gly Thr Ala Pro Asp Ser Thr  
145 150 155 160

Leu Gly Gly Ala Ala Ala Ser Asn Tyr Ala Asn Ser Thr Trp Gly Ser  
165 170 175

Gly Ala Ser Ser Asn Asn Gly Thr Ser Pro Asn Pro Ile His Ile Trp  
180 185 190

Asp Lys Val Ile Val Asp Gly Ser Asp Met Glu Glu Trp Pro Cys Ile  
195 200 205

Ala Ser Lys Asp Thr Glu Ser Ser Ser Glu Asn Thr Thr Asp Asn Asn  
210 215 220

Ser Ala Ser Asn Pro Gly Ser Glu Lys Ser Thr Leu Pro Gly Ser Thr  
225 230 235 240

Thr Ser Asn Lys Gly Lys Gly Ser Gln Cys Gln Ser Ala Ser Ser Gly  
245 250 255

Asn Glu Cys Asn Leu Gly Val Trp Lys Ser Asp Pro Lys Ala Lys Ser  
260 265 270

Val Gln Ser Ser Asn Ser Thr Thr Glu Asn Asn Asn Gly Leu Gly Asn  
275 280 285

Trp Arg Asn Val Ser Gly Gln Asp Arg Ile Gly Pro Gly Ser Gly Phe  
290 295 300

Ser Asn Phe Asn Pro Asn Ser Asn Pro Ser Ala Trp Pro Ala Leu Val  
305 310 315 320

Gln Glu Gly Thr Ser Arg Lys Gly Ala Leu Glu Thr Asp Asn Ser Asn  
325 330 335

Ser Ser Ala Gln Val Ser Thr Val Gly Gln Thr Ser Arg Glu Gln Gln  
340 345 350

Ser Lys Met Glu Asn Ala Gly Val Asn Phe Val Val Ser Gly Arg Glu  
355 360 365

Gln Ala Gln Ile His Asn Thr Asp Gly Pro Lys Asn Gly Asn Thr Asn  
370 375 380

Ser Leu Asn Leu Ser Ser Pro Asn Pro Met Glu Asn Lys Gly Met Pro  
385 390 395 400

Phe Gly Met Gly Leu Gly Asn Thr Ser Arg Ser Thr Asp Ala Pro Ser  
405 410 415

Gln Ser Thr Gly Asp Arg Lys Thr Gly Ser Val Gly Ser Trp Gly Ala  
 420 425 430

Ala Arg Gly Pro Ser Gly Thr Asp Thr Val Ser Gly Gln Ser Asn Ser  
 435 440 445

Gly Asn Asn Gly Asn Asn Gly Lys Glu Arg Glu Asp Ser Trp Lys Gly  
 450 455 460

Ala Ser Val Gln Lys Ser Thr Gly Ser Lys Asn Asp Ser Trp Asp Asn  
 465 470 475 480

Asn Asn Arg Ser Thr Gly Gly Ser Trp Asn Phe Gly Pro Gln Asp Ser  
 485 490 495

Asn Asp Asn Lys Trp Gly Glu Gly Asn Lys Met Thr Ser Gly Val Ser  
 500 505 510

Gln Gly Glu Trp Lys Gln Pro Thr Gly Ser Asp Glu Leu Lys Ile Gly  
 515 520 525

Glu Trp Ser Gly Pro Asn Gln Pro Asn Ser Ser Thr Gly Ala Trp Asp  
 530 535 540

Asn Gln Lys Gly His Pro Leu Pro Glu Asn Gln Gly Asn Ala Gln Ala  
 545 550 555 560

Pro Cys Trp Gly Arg Ser Ser Ser Ser Thr Gly Ser Glu Val Gly Gly  
 565 570 575

Gln Ser Thr Gly Ser Asn His Lys Ala Gly Ser Ser Asp Ser His Asn  
 580 585 590

Ser Gly Arg Arg Ser Tyr Arg Pro Thr His Pro Asp Cys Gln Ala Val  
 595 600 605

Leu Gln Thr Leu Leu Ser Arg Thr Asp Leu Asp Pro Arg Val Leu Ser  
 610 615 620

Asn Thr Gly Trp Gly Gln Thr Gln Ile Lys Gln Asp Thr Val Trp Asp  
 625 630 635 640

Ile Glu Glu Val Pro Arg Pro Glu Gly Lys Ser Asp Lys Gly Thr Glu  
 645 650 655

Gly Trp Glu Ser Ala Ala Thr Gln Thr Lys Asn Ser Gly Gly Trp Gly  
 660 665 670

Asp Ala Pro Ser Gln Ser Asn Gln Met Lys Ser Gly Trp Gly Glu Leu  
 675 680 685



Ser	Ala	Ser	Thr	Glu	Trp	Lys	Asp	Pro	Lys	Asn	Thr	Gly	Gly	Trp	Asn	
690						695				700						
Asp	Tyr	Lys	Asn	Asn	Asn	Ser	Ser	Asn	Trp	Gly	Gly	Gly	Arg	Pro	Asp	
705					710					715					720	
Glu	Lys	Thr	Pro	Ser	Ser	Trp	Asn	Glu	Asn	Pro	Ser	Lys	Asp	Gln	Gly	
				725					730					735		
Trp	Gly	Gly	Gly	Arg	Gln	Pro	Asn	Gln	Gly	Trp	Ser	Ser	Gly	Lys	Asn	
			740					745					750			
Gly	Trp	Gly	Glu	Glu	Val	Asp	Gln	Thr	Lys	Asn	Ser	Asn	Trp	Glu	Ser	
		755					760					765				
Ser	Ala	Ser	Lys	Pro	Val	Ser	Gly	Trp	Gly	Glu	Gly	Gly	Gln	Asn	Glu	
	770					775					780					
Ile	Gly	Thr	Trp	Gly	Asn	Gly	Gly	Asn	Ala	Ser	Leu	Ala	Ser	Lys	Gly	
785					790					795					800	
Gly	Trp	Glu	Asp	Cys	Lys	Arg	Ser	Pro	Ala	Trp	Asn	Glu	Thr	Gly	Arg	
				805					810					815		
Gln	Pro	Asn	Ser	Trp	Asn	Lys	Gln	His	Gln	Gln	Gln	Gln	Pro	Pro	Gln	
			820					825					830			
Gln	Pro	Pro	Pro	Pro	Gln	Pro	Glu	Ala	Ser	Gly	Ser	Trp	Gly	Gly	Pro	
		835					840					845				
Pro	Pro	Pro	Pro	Pro	Gly	Asn	Val	Arg	Pro	Ser	Asn	Ser	Ser	Trp	Ser	
	850					855					860					
Ser	Gly	Pro	Gln	Pro	Ala	Thr	Pro	Lys	Asp	Glu	Glu	Pro	Ser	Gly	Trp	
865					870					875					880	
Glu	Glu	Pro	Ser	Pro	Gln	Ser	Ile	Ser	Arg	Lys	Met	Asp	Ile	Asp	Asp	
				885					890					895		
Gly	Thr	Ser	Ala	Trp	Gly	Asp	Pro	Asn	Ser	Tyr	Asn	Tyr	Lys	Asn	Val	
			900					905					910			
Asn	Leu	Trp	Asp	Lys	Asn	Ser	Gln	Gly	Gly	Pro	Ala	Pro	Arg	Glu	Pro	
		915					920					925				
Asn	Leu	Pro	Thr	Pro	Met	Thr	Ser	Lys	Ser	Ala	Ser	Asp	Ser	Lys	Ser	
	930					935					940					
Met	Gln	Asp	Gly	Trp	Gly	Glu	Ser	Asp	Gly	Pro	Val	Thr	Gly	Ala	Arg	
945					950					955					960	

His Pro Ser Trp Glu Glu Glu Glu Asp Gly Gly Val Trp Asn Thr Thr  
 965 970 975

Gly Ser Gln Gly Ser Ala Ser Ser His Asn Ser Ala Ser Trp Gly Gln  
 980 985 990

Gly Gly Lys Lys Gln Met Lys Cys Ser Leu Lys Gly Gly Asn Asn Asp  
 995 1000 1005

Ser Trp Met Asn Pro Leu Ala Lys Gln Phe Ser Asn Met Gly Leu  
 1010 1015 1020

Leu Ser Gln Thr Glu Asp Asn Pro Ser Ser Lys Met Asp Leu Ser  
 1025 1030 1035

Val Gly Ser Leu Ser Asp Lys Lys Phe Asp Val Asp Lys Arg Ala  
 1040 1045 1050

Met Asn Leu Gly Asp Phe Asn Asp Ile Met Arg Lys Asp Arg Ser  
 1055 1060 1065

Gly Phe Arg Pro Pro Asn Ser Lys Asp Met Gly Thr Thr Asp Ser  
 1070 1075 1080

Gly Pro Tyr Phe Glu Lys Gly Gly Ser His Gly Leu Phe Gly Asn  
 1085 1090 1095

Ser Thr Ala Gln Ser Arg Gly Leu His Thr Pro Val Gln Pro Leu  
 1100 1105 1110

Asn Ser Ser Pro Ser Leu Arg Ala Gln Val Pro Pro Gln Phe Ile  
 1115 1120 1125

Ser Pro Gln Val Ser Ala Ser Met Leu Lys Gln Phe Pro Asn Ser  
 1130 1135 1140

Gly Leu Ser Pro Gly Leu Phe Asn Val Gly Pro Gln Leu Ser Pro  
 1145 1150 1155

Gln Gln Ile Ala Met Leu Ser Gln Leu Pro Gln Ile Pro Gln Phe  
 1160 1165 1170

Gln Leu Ala Cys Gln Leu Leu Leu Gln Gln Gln Gln Gln Gln Gln  
 1175 1180 1185

Leu Leu Gln Asn Gln Arg Lys Ile Ser Gln Ala Val Arg Gln Gln  
 1190 1195 1200

Gln Glu Gln Gln Leu Ala Arg Met Val Ser Ala Leu Gln Gln Gln  
 1205 1210 1215

Gln Gln Gln Gln Arg Gln Pro Gly Met Lys His Ser Pro Ser His

1220						1225						1230			
Pro Val	Gly	Pro	Lys	Pro	His	Leu	Asp	Asn	Met	Val	Pro	Asn	Ala		
1235					1240					1245					
Leu Asn	Val	Gly	Leu	Pro	Asp	Leu	Gln	Thr	Lys	Gly	Pro	Ile	Pro		
1250					1255					1260					
Gly Tyr	Gly	Ser	Gly	Phe	Ser	Ser	Gly	Gly	Met	Asp	Tyr	Gly	Met		
1265					1270					1275					
Val Gly	Gly	Lys	Glu	Ala	Gly	Thr	Glu	Ser	Arg	Phe	Lys	Gln	Trp		
1280					1285					1290					
Thr Ser	Met	Met	Glu	Gly	Leu	Pro	Ser	Val	Ala	Thr	Gln	Glu	Ala		
1295					1300					1305					
Asn Met	His	Lys	Asn	Gly	Ala	Ile	Val	Ala	Pro	Gly	Lys	Thr	Arg		
1310					1315					1320					
Gly Gly	Ser	Pro	Tyr	Asn	Gln	Phe	Asp	Ile	Ile	Pro	Gly	Asp	Thr		
1325					1330					1335					
Leu Gly	Gly	His	Thr	Gly	Pro	Ala	Gly	Asp	Ser	Trp	Leu	Pro	Ala		
1340					1345					1350					
Lys Ser	Pro	Pro	Thr	Asn	Lys	Ile	Gly	Ser	Lys	Ser	Ser	Asn	Ala		
1355					1360					1365					
Ser Trp	Pro	Pro	Glu	Phe	Gln	Pro	Gly	Val	Pro	Trp	Lys	Gly	Ile		
1370					1375					1380					
Gln Asn	Ile	Asp	Pro	Glu	Ser	Asp	Pro	Tyr	Val	Thr	Pro	Gly	Ser		
1385					1390					1395					
Val Leu	Gly	Gly	Thr	Ala	Thr	Ser	Pro	Ile	Val	Asp	Thr	Asp	His		
1400					1405					1410					
Gln Leu	Leu	Arg	Asp	Asn	Thr	Thr	Gly	Ser	Asn	Ser	Ser	Leu	Asn		
1415					1420					1425					
Thr Ser	Leu	Pro	Ser	Pro	Gly	Ala	Trp	Pro	Tyr	Ser	Ala	Ser	Asp		
1430					1435					1440					
Asn Ser	Phe	Thr	Asn	Val	His	Ser	Thr	Ser	Ala	Lys	Phe	Pro	Asp		
1445					1450					1455					
Tyr Lys	Ser	Thr	Trp	Ser	Pro	Asp	Pro	Ile	Gly	His	Asn	Pro	Thr		
1460					1465					1470					
His Leu	Ser	Asn	Lys	Met	Trp	Lys	Asn	His	Ile	Ser	Ser	Arg	Asn		
1475					1480					1485					

Thr	Thr	Pro	Leu	Pro	Arg	Pro	Pro	Pro	Gly	Leu	Thr	Asn	Pro	Lys
	1490					1495					1500			
Pro	Ser	Ser	Pro	Trp	Ser	Ser	Thr	Ala	Pro	Arg	Ser	Val	Arg	Gly
	1505					1510					1515			
Trp	Gly	Thr	Gln	Asp	Ser	Arg	Leu	Ala	Ser	Ala	Ser	Thr	Trp	Ser
	1520					1525					1530			
Asp	Gly	Gly	Ser	Val	Arg	Pro	Ser	Tyr	Trp	Leu	Val	Leu	His	Asn
	1535					1540					1545			
Leu	Thr	Pro	Gln	Ile	Asp	Gly	Ser	Thr	Leu	Arg	Thr	Ile	Cys	Met
	1550					1555					1560			
Gln	His	Gly	Pro	Leu	Leu	Thr	Phe	His	Leu	Asn	Leu	Thr	Gln	Gly
	1565					1570					1575			
Thr	Ala	Leu	Ile	Arg	Tyr	Ser	Thr	Lys	Gln	Glu	Ala	Ala	Lys	Ala
	1580					1585					1590			
Gln	Thr	Ala	Leu	His	Met	Cys	Val	Leu	Gly	Asn	Thr	Thr	Ile	Leu
	1595					1600					1605			
Ala	Glu	Phe	Ala	Thr	Asp	Asp	Glu	Val	Ser	Arg	Phe	Leu	Ala	Gln
	1610					1615					1620			
Ala	Gln	Pro	Pro	Thr	Pro	Ala	Ala	Thr	Pro	Ser	Ala	Pro	Ala	Ala
	1625					1630					1635			
Gly	Trp	Gln	Ser	Leu	Glu	Thr	Gly	Gln	Asn	Gln	Ser	Asp	Pro	Val
	1640					1645					1650			
Gly	Pro	Ala	Leu	Asn	Leu	Phe	Gly	Gly	Ser	Thr	Gly	Leu	Gly	Gln
	1655					1660					1665			
Trp	Ser	Ser	Ser	Ala	Gly	Gly	Ser	Ser	Gly	Ala	Asp	Leu	Ala	Gly
	1670					1675					1680			
Ala	Ser	Leu	Trp	Gly	Pro	Pro	Asn	Tyr	Ser	Ser	Ser	Leu	Trp	Gly
	1685					1690					1695			
Val	Pro	Thr	Val	Glu	Asp	Pro	His	Arg	Met	Gly	Ser	Pro	Ala	Pro
	1700					1705					1710			
Leu	Leu	Pro	Gly	Asp	Leu	Leu	Gly	Gly	Gly	Ser	Asp	Ser	Ile	
	1715					1720					1725			

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 <212> PRT

<213> Homo sapiens

<400> 12

Met Ala Phe Val Ala Thr Gln Gly Ala Thr Val Val Asp Gln Thr Thr  
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Leu Met Lys Lys Tyr Leu Gln Phe Val Ala Ala Leu Thr Asp Val Asn  
20 25 30

Thr Pro Asp Glu Thr Lys Leu Lys Met Met Gln Glu Val Ser Glu Asn  
35 40 45

Phe Glu Asn Val Thr Ser Ser Pro Gln Tyr Ser Thr Phe Leu Glu His  
50 55 60

Ile Ile Pro Arg Phe Leu Thr Phe Leu Gln Asp Gly Glu Val Gln Phe  
65 70 75 80

Leu Gln Glu Lys Pro Ala Gln Gln Leu Arg Lys Leu Val Leu Glu Ile  
85 90 95

Ile His Arg Ile Pro Thr Asn Glu His Leu Arg Pro His Thr Lys Asn  
100 105 110

Val Leu Ser Val Met Phe Arg Phe Leu Glu Thr Glu Asn Glu Glu Asn  
115 120 125

Val Leu Ile Cys Leu Arg Ile Ile Ile Glu Leu His Lys Gln Phe Arg  
130 135 140

Pro Pro Ile Thr Gln Glu Ile His His Phe Leu Asp Phe Val Lys Gln  
145 150 155 160

Ile Tyr Lys Glu Leu Pro Lys Val Val Asn Arg Tyr Phe Glu Asn Pro  
165 170 175

Gln Val Ile Pro Glu Asn Thr Val Pro Pro Glu Met Val Gly Met  
180 185 190

Ile Thr Thr Ile Ala Val Lys Val Asn Pro Glu Arg Glu Asp Ser Glu  
195 200 205

Thr Arg Thr His Ser Ile Ile Pro Arg Gly Ser Leu Ser Leu Lys Val  
210 215 220

Leu Ala Glu Leu Pro Ile Ile Val Val Leu Met Tyr Gln Leu Tyr Lys  
225 230 235 240

Leu Asn Ile His Asn Val Val Ala Glu Phe Val Pro Leu Ile Met Asn  
245 250 255

Thr Ile Ala Ile Gln Val Ser Ala Gln Ala Arg Gln His Lys Leu Tyr

260

265

270

Asn Lys Glu Leu Tyr Ala Asp Phe Ile Ala Ala Gln Ile Lys Thr Leu  
275 280 285

Ser Phe Leu Ala Tyr Ile Ile Arg Ile Tyr Gln Glu Leu Val Thr Lys  
290 295 300

Tyr Ser Gln Gln Met Val Lys Gly Met Leu Gln Leu Leu Ser Asn Cys  
305 310 315 320

Pro Ala Glu Thr Ala His Leu Arg Lys Glu Leu Leu Ile Ala Ala Lys  
325 330 335

His Ile Leu Thr Thr Glu Leu Arg Asn Gln Phe Ile Pro Cys Met Asp  
340 345 350

Lys Leu Phe Asp Glu Ser Ile Leu Ile Gly Ser Gly Tyr Thr Ala Arg  
355 360 365

Glu Thr Leu Arg Pro Leu Ala Tyr Ser Thr Leu Ala Asp Leu Val His  
370 375 380

His Val Arg Gln His Leu Pro Leu Ser Asp Leu Ser Leu Ala Val Gln  
385 390 395 400

Leu Phe Ala Lys Asn Ile Asp Asp Glu Ser Leu Pro Ser Ser Ile Gln  
405 410 415

Thr Met Ser Cys Lys Leu Leu Leu Asn Leu Val Asp Cys Ile Arg Ser  
420 425 430

Lys Ser Glu Gln Glu Ser Gly Asn Gly Arg Asp Val Leu Met Arg Met  
435 440 445

Leu Glu Val Phe Val Leu Lys Phe His Thr Ile Ala Arg Tyr Gln Leu  
450 455 460

Ser Ala Ile Phe Lys Lys Cys Lys Pro Gln Ser Glu Leu Gly Ala Val  
465 470 475 480

Glu Ala Ala Leu Pro Gly Val Pro Thr Ala Pro Ala Ala Pro Gly Pro  
485 490 495

Ala Pro Ser Pro Ala Pro Val Pro Ala Pro Pro Pro Pro Pro Pro  
500 505 510

Pro Pro Pro Ala Thr Pro Val Thr Pro Ala Pro Val Pro Pro Phe Glu  
515 520 525

Lys Gln Gly Glu Lys Asp Lys Glu Asp Lys Gln Thr Phe Gln Val Thr  
530 535 540

Asp	Cys	Arg	Ser	Leu	Val	Lys	Thr	Leu	Val	Cys	Gly	Val	Lys	Thr	Ile	545	550	555				560
Thr	Trp	Gly	Ile	Thr	Ser	Cys	Lys	Ala	Pro	Gly	Glu	Ala	Gln	Phe	Ile		565	570				575
Pro	Asn	Lys	Gln	Leu	Gln	Pro	Lys	Glu	Thr	Gln	Ile	Tyr	Ile	Lys	Leu		580	585				590
Val	Lys	Tyr	Ala	Met	Gln	Ala	Leu	Asp	Ile	Tyr	Gln	Val	Gln	Ile	Ala		595	600				605
Gly	Asn	Gly	Gln	Thr	Tyr	Ile	Arg	Val	Ala	Asn	Cys	Gln	Thr	Val	Arg	610		615				620
Met	Lys	Glu	Glu	Lys	Glu	Val	Leu	Glu	His	Phe	Ala	Gly	Val	Phe	Thr	625		630				640
Met	Met	Asn	Pro	Leu	Thr	Phe	Lys	Glu	Ile	Phe	Gln	Thr	Thr	Val	Pro		645	650				655
Tyr	Met	Val	Glu	Arg	Ile	Ser	Lys	Asn	Tyr	Ala	Leu	Gln	Ile	Val	Ala		660	665				670
Asn	Ser	Phe	Leu	Ala	Asn	Pro	Thr	Thr	Ser	Ala	Leu	Phe	Ala	Thr	Ile		675	680				685
Leu	Val	Glu	Tyr	Leu	Leu	Asp	Arg	Leu	Pro	Glu	Met	Gly	Ser	Asn	Val	690		695				700
Glu	Leu	Ser	Asn	Leu	Tyr	Leu	Lys	Leu	Phe	Lys	Leu	Val	Phe	Gly	Ser	705		710				720
Val	Ser	Leu	Phe	Ala	Ala	Glu	Asn	Glu	Gln	Met	Leu	Lys	Pro	His	Leu		725	730				735
His	Lys	Ile	Val	Asn	Ser	Ser	Met	Glu	Leu	Ala	Gln	Thr	Ala	Lys	Glu		740	745				750
Pro	Tyr	Asn	Tyr	Phe	Leu	Leu	Leu	Arg	Ala	Leu	Phe	Arg	Ser	Ile	Gly		755	760				765
Gly	Gly	Ser	His	Asp	Leu	Leu	Tyr	Gln	Glu	Phe	Leu	Pro	Leu	Leu	Pro	770		775				780
Asn	Leu	Leu	Gln	Gly	Leu	Asn	Met	Leu	Gln	Ser	Gly	Leu	His	Lys	Gln	785		790				800
His	Met	Lys	Asp	Leu	Phe	Val	Glu	Leu	Cys	Leu	Thr	Val	Pro	Val	Arg		805	810				815

Leu Ser Ser Leu Leu Pro Tyr Leu Pro Met Leu Met Asp Pro Leu Val  
820 825 830

Ser Ala Leu Asn Gly Ser Gln Thr Leu Val Ser Gln Gly Leu Arg Thr  
835 840 845

Leu Glu Leu Cys Val Asp Asn Leu Gln Pro Asp Phe Leu Tyr Asp His  
850 855 860

Ile Gln Pro Val Arg Ala Glu Leu Met Gln Ala Leu Trp Arg Thr Leu  
865 870 875 880

Arg Asn Pro Ala Asp Ser Ile Ser His Val Ala Tyr Arg Val Leu Gly  
885 890 895

Lys Phe Gly Gly Ser Asn Arg Lys Met Leu Lys Glu Ser Gln Lys Leu  
900 905 910

His Tyr Val Val Thr Glu Val Gln Gly Pro Ser Ile Thr Val Glu Phe  
915 920 925

Ser Asp Cys Lys Ala Ser Leu Gln Leu Pro Met Glu Lys Ala Ile Glu  
930 935 940

Thr Ala Leu Asp Cys Leu Lys Ser Ala Asn Thr Glu Pro Tyr Tyr Arg  
945 950 955 960

Arg Gln Ala Trp Glu Val Ile Lys Cys Phe Leu Val Ala Met Met Ser  
965 970 975

Leu Glu Asp Asn Lys His Ala Leu Tyr Gln Leu Leu Ala His Pro Asn  
980 985 990

Phe Thr Glu Lys Thr Ile Pro Asn Val Ile Ile Ser His Arg Tyr Lys  
995 1000 1005

Ala Gln Asp Thr Pro Ala Arg Lys Thr Phe Glu Gln Ala Leu Thr  
1010 1015 1020

Gly Ala Phe Met Ser Ala Val Ile Lys Asp Leu Arg Pro Ser Ala  
1025 1030 1035

Leu Pro Phe Val Ala Ser Leu Ile Arg His Tyr Thr Met Val Ala  
1040 1045 1050

Val Ala Gln Gln Cys Gly Pro Phe Leu Leu Pro Cys Tyr Gln Val  
1055 1060 1065

Gly Ser Gln Pro Ser Thr Ala Met Phe His Ser Glu Glu Asn Gly  
1070 1075 1080



Ser	Lys	Gly	Met	Asp	Pro	Leu	Val	Leu	Ile	Asp	Ala	Ile	Ala	Ile
	1085					1090					1095			
Cys	Met	Ala	Tyr	Glu	Glu	Lys	Glu	Leu	Cys	Lys	Ile	Gly	Glu	Val
	1100					1105					1110			
Ala	Leu	Ala	Val	Ile	Phe	Asp	Val	Ala	Ser	Ile	Ile	Leu	Gly	Ser
	1115					1120					1125			
Lys	Glu	Arg	Ala	Cys	Gln	Leu	Pro	Leu	Phe	Ser	Tyr	Ile	Val	Glu
	1130					1135					1140			
Arg	Leu	Cys	Ala	Cys	Cys	Tyr	Glu	Gln	Ala	Trp	Tyr	Ala	Lys	Leu
	1145					1150					1155			
Gly	Gly	Val	Val	Ser	Ile	Lys	Phe	Leu	Met	Glu	Arg	Leu	Pro	Leu
	1160					1165					1170			
Thr	Trp	Val	Leu	Gln	Asn	Gln	Gln	Thr	Phe	Leu	Lys	Ala	Leu	Leu
	1175					1180					1185			
Phe	Val	Met	Met	Asp	Leu	Thr	Gly	Glu	Val	Ser	Asn	Gly	Ala	Val
	1190					1195					1200			
Ala	Met	Ala	Lys	Thr	Thr	Leu	Glu	Gln	Leu	Leu	Met	Arg	Cys	Ala
	1205					1210					1215			
Thr	Pro	Leu	Lys	Asp	Glu	Glu	Arg	Ala	Glu	Glu	Ile	Val	Ala	Ala
	1220					1225					1230			
Gln	Glu	Lys	Ser	Phe	His	His	Val	Thr	His	Asp	Leu	Val	Arg	Glu
	1235					1240					1245			
Val	Thr	Ser	Pro	Asn	Ser	Thr	Val	Arg	Lys	Gln	Ala	Met	His	Ser
	1250					1255					1260			
Leu	Gln	Val	Leu	Ala	Gln	Val	Thr	Gly	Lys	Ser	Val	Thr	Val	Ile
	1265					1270					1275			
Met	Glu	Pro	His	Lys	Glu	Val	Leu	Gln	Asp	Met	Val	Pro	Pro	Lys
	1280					1285					1290			
Lys	His	Leu	Leu	Arg	His	Gln	Pro	Ala	Asn	Ala	Gln	Ile	Gly	Leu
	1295					1300					1305			
Met	Glu	Gly	Asn	Thr	Phe	Cys	Thr	Thr	Leu	Gln	Pro	Arg	Leu	Phe
	1310					1315					1320			
Thr	Met	Asp	Leu	Asn	Val	Val	Glu	His	Lys	Val	Phe	Tyr	Thr	Glu
	1325					1330					1335			
Leu	Leu	Asn	Leu	Cys	Glu	Ala	Glu	Asp	Ser	Ala	Leu	Thr	Lys	Leu

1340						1345					1350			
Pro Cys Tyr Lys Ser Leu	Pro Ser Leu Val Pro Leu Arg Ile Ala	1355				1360					1365			
Ala Leu Asn Ala Leu Ala	Ala Cys Asn Tyr Leu Pro Gln Ser Arg	1370				1375					1380			
Glu Lys Ile Ile Ala Ala	Leu Phe Lys Ala Leu Asn Ser Thr Asn	1385				1390					1395			
Ser Glu Leu Gln Glu Ala	Gly Glu Ala Cys Met Arg Lys Phe Leu	1400				1405					1410			
Glu Gly Ala Thr Ile Glu	Val Asp Gln Ile His Thr His Met Arg	1415				1420					1425			
Pro Leu Leu Met Met Leu	Gly Asp Tyr Arg Ser Leu Thr Leu Asn	1430				1435					1440			
Val Val Asn Arg Leu Thr	Ser Val Thr Arg Leu Phe Pro Asn Ser	1445				1450					1455			
Phe Asn Asp Lys Phe Cys	Asp Gln Met Met Gln His Leu Arg Lys	1460				1465					1470			
Trp Met Glu Val Val Val	Ile Thr His Lys Gly Gly Gln Arg Ser	1475				1480					1485			
Asp Gly Asn Glu Met Lys	Ile Cys Ser Ala Ile Ile Asn Leu Phe	1490				1495					1500			
His Leu Ile Pro Ala Ala	Pro Gln Thr Leu Val Lys Pro Leu Leu	1505				1510					1515			
Glu Val Val Met Lys Thr	Glu Arg Ala Met Leu Ile Glu Ala Gly	1520				1525					1530			
Ser Pro Phe Arg Glu Pro	Leu Ile Lys Phe Leu Thr Arg His Pro	1535				1540					1545			
Ser Gln Thr Val Glu Leu	Phe Met Met Glu Ala Thr Leu Asn Asp	1550				1555					1560			
Pro Gln Trp Ser Arg Met	Phe Met Ser Phe Leu Lys His Lys Asp	1565				1570					1575			
Ala Arg Pro Leu Arg Asp	Val Leu Ala Ala Asn Pro Asn Arg Phe	1580				1585					1590			
Ile Thr Leu Leu Leu Pro	Gly Gly Ala Gln Thr Ala Val Arg Pro	1595				1600					1605			

Gly	Ser	Pro	Ser	Thr	Ser	Thr	Met	Arg	Leu	Asp	Leu	Gln	Phe	Gln
1610						1615					1620			
Ala	Ile	Lys	Ile	Ile	Ser	Ile	Ile	Val	Lys	Asn	Asp	Asp	Ser	Trp
1625						1630					1635			
Leu	Ala	Ser	Gln	His	Ser	Leu	Val	Ser	Gln	Leu	Arg	Arg	Val	Trp
1640						1645					1650			
Val	Ser	Glu	Asn	Phe	Gln	Glu	Arg	His	Arg	Lys	Glu	Asn	Met	Ala
1655						1660					1665			
Ala	Thr	Asn	Trp	Lys	Glu	Pro	Lys	Leu	Leu	Ala	Tyr	Cys	Leu	Leu
1670						1675					1680			
Asn	Tyr	Cys	Lys	Arg	Asn	Tyr	Gly	Asp	Ile	Glu	Leu	Leu	Phe	Gln
1685						1690					1695			
Leu	Leu	Arg	Ala	Phe	Thr	Gly	Arg	Phe	Leu	Cys	Asn	Met	Thr	Phe
1700						1705					1710			
Leu	Lys	Glu	Tyr	Met	Glu	Glu	Glu	Ile	Pro	Lys	Asn	Tyr	Ser	Ile
1715						1720					1725			
Ala	Gln	Lys	Arg	Ala	Leu	Phe	Phe	Arg	Phe	Val	Asp	Phe	Asn	Asp
1730						1735					1740			
Pro	Asn	Phe	Gly	Asp	Glu	Leu	Lys	Ala	Lys	Val	Leu	Gln	His	Ile
1745						1750					1755			
Leu	Asn	Pro	Ala	Phe	Leu	Tyr	Ser	Phe	Glu	Lys	Gly	Glu	Gly	Glu
1760						1765					1770			
Gln	Leu	Leu	Gly	Pro	Pro	Asn	Pro	Glu	Gly	Asp	Asn	Pro	Glu	Ser
1775						1780					1785			
Ile	Thr	Ser	Val	Phe	Ile	Thr	Lys	Val	Leu	Asp	Pro	Glu	Lys	Gln
1790						1795					1800			
Ala	Asp	Met	Leu	Asp	Ser	Leu	Arg	Ile	Tyr	Leu	Leu	Gln	Tyr	Ala
1805						1810					1815			
Thr	Leu	Leu	Val	Glu	His	Ala	Pro	His	His	Ile	His	Asp	Asn	Asn
1820						1825					1830			
Lys	Asn	Arg	Asn	Ser	Lys	Leu	Arg	Arg	Leu	Met	Thr	Phe	Ala	Trp
1835						1840					1845			
Pro	Cys	Leu	Leu	Ser	Lys	Ala	Cys	Val	Asp	Pro	Ala	Cys	Lys	Tyr
1850						1855					1860			

Ser	Gly	His	Leu	Leu	Leu	Ala	His	Ile	Ile	Ala	Lys	Phe	Ala	Ile
1865						1870					1875			
His	Lys	Lys	Ile	Val	Leu	Gln	Val	Phe	His	Ser	Leu	Leu	Lys	Ala
1880						1885					1890			
His	Ala	Met	Glu	Ala	Arg	Ala	Ile	Val	Arg	Gln	Ala	Met	Ala	Ile
1895						1900					1905			
Leu	Thr	Pro	Ala	Val	Pro	Ala	Arg	Met	Glu	Asp	Gly	His	Gln	Met
1910						1915					1920			
Leu	Thr	His	Trp	Thr	Arg	Lys	Ile	Ile	Val	Glu	Glu	Gly	His	Thr
1925						1930					1935			
Val	Pro	Gln	Leu	Val	His	Ile	Leu	His	Leu	Ile	Val	Gln	His	Phe
1940						1945					1950			
Lys	Val	Tyr	Tyr	Pro	Val	Arg	His	His	Leu	Val	Gln	His	Met	Val
1955						1960					1965			
Ser	Ala	Met	Gln	Arg	Leu	Gly	Phe	Thr	Pro	Ser	Val	Thr	Ile	Glu
1970						1975					1980			
Gln	Arg	Arg	Leu	Ala	Val	Asp	Leu	Ser	Glu	Val	Val	Ile	Lys	Trp
1985						1990					1995			
Glu	Leu	Gln	Arg	Ile	Lys	Asp	Gln	Gln	Pro	Asp	Ser	Asp	Met	Asp
2000						2005					2010			
Pro	Asn	Ser	Ser	Gly	Glu	Gly	Val	Asn	Ser	Val	Ser	Ser	Ser	Ile
2015						2020					2025			
Lys	Arg	Gly	Leu	Ser	Val	Asp	Ser	Ala	Gln	Glu	Val	Lys	Arg	Phe
2030						2035					2040			
Arg	Thr	Ala	Thr	Gly	Ala	Ile	Ser	Ala	Val	Phe	Gly	Arg	Ser	Gln
2045						2050					2055			
Ser	Leu	Pro	Gly	Ala	Asp	Ser	Leu	Leu	Ala	Lys	Pro	Ile	Asp	Lys
2060						2065					2070			
Gln	His	Thr	Asp	Thr	Val	Val	Asn	Phe	Leu	Ile	Arg	Val	Ala	Cys
2075						2080					2085			
Gln	Val	Asn	Asp	Asn	Thr	Asn	Thr	Ala	Gly	Ser	Pro	Gly	Glu	Val
2090						2095					2100			
Leu	Ser	Arg	Arg	Cys	Val	Asn	Leu	Leu	Lys	Thr	Ala	Leu	Arg	Pro
2105						2110					2115			

Asp	Met	Trp	Pro	Lys	Ser	Glu	Leu	Lys	Leu	Gln	Trp	Phe	Asp	Lys
2120						2125					2130			
Leu	Leu	Met	Thr	Val	Glu	Gln	Pro	Asn	Gln	Val	Asn	Tyr	Gly	Asn
2135						2140					2145			
Ile	Cys	Thr	Gly	Leu	Glu	Val	Leu	Ser	Phe	Leu	Leu	Thr	Val	Leu
2150						2155					2160			
Gln	Ser	Pro	Ala	Ile	Leu	Ser	Ser	Phe	Lys	Pro	Leu	Gln	Arg	Gly
2165						2170					2175			
Ile	Ala	Ala	Cys	Met	Thr	Cys	Gly	Asn	Thr	Lys	Val	Leu	Arg	Ala
2180						2185					2190			
Val	His	Ser	Leu	Leu	Ser	Arg	Leu	Met	Ser	Ile	Phe	Pro	Thr	Glu
2195						2200					2205			
Pro	Ser	Thr	Ser	Ser	Val	Ala	Ser	Lys	Tyr	Glu	Glu	Leu	Glu	Cys
2210						2215					2220			
Leu	Tyr	Ala	Ala	Val	Gly	Lys	Val	Ile	Tyr	Glu	Gly	Leu	Thr	Asn
2225						2230					2235			
Tyr	Glu	Lys	Ala	Thr	Asn	Ala	Asn	Pro	Ser	Gln	Leu	Phe	Gly	Thr
2240						2245					2250			
Leu	Met	Ile	Leu	Lys	Ser	Ala	Cys	Ser	Asn	Asn	Pro	Ser	Tyr	Ile
2255						2260					2265			
Asp	Arg	Leu	Ile	Ser	Val	Phe	Met	Arg	Ser	Leu	Gln	Lys	Met	Val
2270						2275					2280			
Arg	Glu	His	Leu	Asn	Pro	Gln	Ala	Ala	Ser	Gly	Ser	Thr	Glu	Ala
2285						2290					2295			
Thr	Ser	Gly	Thr	Ser	Glu	Leu	Val	Met	Leu	Ser	Leu	Glu	Leu	Val
2300						2305					2310			
Lys	Thr	Arg	Leu	Ala	Val	Met	Ser	Met	Glu	Met	Arg	Lys	Asn	Phe
2315						2320					2325			
Ile	Gln	Ala	Ile	Leu	Thr	Ser	Leu	Ile	Glu	Lys	Ser	Pro	Asp	Ala
2330						2335					2340			
Lys	Ile	Leu	Arg	Ala	Val	Val	Lys	Ile	Val	Glu	Glu	Trp	Val	Lys
2345						2350					2355			
Asn	Asn	Ser	Pro	Met	Ala	Ala	Asn	Gln	Thr	Pro	Thr	Leu	Arg	Glu
2360						2365					2370			
Lys	Ser	Ile	Leu	Leu	Val	Lys	Met	Met	Thr	Tyr	Ile	Glu	Lys	Arg

2375						2380						2385			
Phe	Pro	Glu	Asp	Leu	Glu	Leu	Asn	Ala	Gln	Phe	Leu	Asp	Leu	Val	
	2390					2395					2400				
Asn	Tyr	Val	Tyr	Arg	Asp	Glu	Thr	Leu	Ser	Gly	Ser	Glu	Leu	Thr	
	2405					2410					2415				
Ala	Lys	Leu	Glu	Pro	Ala	Phe	Leu	Ser	Gly	Leu	Arg	Cys	Ala	Gln	
	2420					2425					2430				
Pro	Leu	Ile	Arg	Ala	Lys	Phe	Phe	Glu	Val	Phe	Asp	Asn	Ser	Met	
	2435					2440					2445				
Lys	Arg	Arg	Val	Tyr	Glu	Arg	Leu	Leu	Tyr	Val	Thr	Cys	Ser	Gln	
	2450					2455					2460				
Asn	Trp	Glu	Ala	Met	Gly	Asn	His	Phe	Trp	Ile	Lys	Gln	Cys	Ile	
	2465					2470					2475				
Glu	Leu	Leu	Leu	Ala	Val	Cys	Glu	Lys	Ser	Thr	Pro	Ile	Gly	Thr	
	2480					2485					2490				
Ser	Cys	Gln	Gly	Ala	Met	Leu	Pro	Ser	Ile	Thr	Asn	Val	Ile	Asn	
	2495					2500					2505				
Leu	Ala	Asp	Ser	His	Asp	Arg	Ala	Ala	Phe	Ala	Met	Val	Thr	His	
	2510					2515					2520				
Val	Lys	Gln	Glu	Pro	Arg	Glu	Arg	Glu	Asn	Ser	Glu	Ser	Lys	Glu	
	2525					2530					2535				
Glu	Asp	Val	Glu	Ile	Asp	Ile	Glu	Leu	Ala	Pro	Gly	Asp	Gln	Thr	
	2540					2545					2550				
Ser	Thr	Pro	Lys	Thr	Lys	Glu	Leu	Ser	Glu	Lys	Asp	Ile	Gly	Asn	
	2555					2560					2565				
Gln	Leu	His	Met	Leu	Thr	Asn	Arg	His	Asp	Lys	Phe	Leu	Asp	Thr	
	2570					2575					2580				
Leu	Arg	Glu	Val	Lys	Thr	Gly	Ala	Leu	Leu	Ser	Ala	Phe	Val	Gln	
	2585					2590					2595				
Leu	Cys	His	Ile	Ser	Thr	Thr	Leu	Ala	Glu	Lys	Thr	Trp	Val	Gln	
	2600					2605					2610				
Leu	Phe	Pro	Arg	Leu	Trp	Lys	Ile	Leu	Ser	Asp	Arg	Gln	Gln	His	
	2615					2620					2625				
Ala	Leu	Ala	Gly	Glu	Ile	Ser	Pro	Phe	Leu	Cys	Ser	Gly	Ser	His	
	2630					2635					2640				

Gln Val	Gln Arg Asp Cys	Gln	Pro Ser Ala Leu	Asn	Cys Phe Val
2645		2650		2655	
Glu Ala	Met Ser Gln Cys	Val	Pro Pro Ile Pro	Ile	Arg Pro Cys
2660		2665		2670	
Val Leu	Lys Tyr Leu Gly	Lys	Thr His Asn Leu	Trp	Phe Arg Ser
2675		2680		2685	
Thr Leu	Met Leu Glu His	Gln	Ala Phe Glu Lys	Gly	Leu Ser Leu
2690		2695		2700	
Gln Ile	Lys Pro Lys Gln	Thr	Thr Glu Phe Tyr	Glu	Gln Glu Ser
2705		2710		2715	
Ile Thr	Pro Pro Gln Gln	Glu	Ile Leu Asp Ser	Leu	Ala Glu Leu
2720		2725		2730	
Tyr Ser	Leu Leu Gln Glu	Glu	Asp Met Trp Ala	Gly	Leu Trp Gln
2735		2740		2745	
Lys Arg	Cys Lys Tyr Ser	Glu	Thr Ala Thr Ala	Ile	Ala Tyr Glu
2750		2755		2760	
Gln His	Gly Phe Phe Glu	Gln	Ala Gln Glu Ser	Tyr	Glu Lys Ala
2765		2770		2775	
Met Asp	Lys Ala Lys Lys	Glu	His Glu Arg Ser	Asn	Ala Ser Pro
2780		2785		2790	
Ala Ile	Phe Pro Glu Tyr	Gln	Leu Trp Glu Asp	His	Trp Ile Arg
2795		2800		2805	
Cys Ser	Lys Glu Leu Asn	Gln	Trp Glu Ala Leu	Thr	Glu Tyr Gly
2810		2815		2820	
Gln Ser	Lys Gly His Ile	Asn	Pro Tyr Leu Val	Leu	Glu Cys Ala
2825		2830		2835	
Trp Arg	Val Ser Asn Trp	Thr	Ala Met Lys Glu	Ala	Leu Val Gln
2840		2845		2850	
Val Glu	Val Ser Cys Pro	Lys	Glu Met Ala Trp	Lys	Val Asn Met
2855		2860		2865	
Tyr Arg	Gly Tyr Leu Ala	Ile	Cys His Pro Glu	Glu	Gln Gln Leu
2870		2875		2880	
Ser Phe	Ile Glu Arg Leu	Val	Glu Met Ala Ser	Ser	Leu Ala Ile
2885		2890		2895	

Arg	Glu	Trp	Arg	Arg	Leu	Pro	His	Val	Val	Ser	His	Val	His	Thr
2900						2905					2910			
Pro	Leu	Leu	Gln	Ala	Ala	Gln	Gln	Ile	Ile	Glu	Leu	Gln	Glu	Ala
2915						2920					2925			
Ala	Gln	Ile	Asn	Ala	Gly	Leu	Gln	Pro	Thr	Asn	Leu	Gly	Arg	Asn
2930						2935					2940			
Asn	Ser	Leu	His	Asp	Met	Lys	Thr	Val	Val	Lys	Thr	Trp	Arg	Asn
2945						2950					2955			
Arg	Leu	Pro	Ile	Val	Ser	Asp	Asp	Leu	Ser	His	Trp	Ser	Ser	Ile
2960						2965					2970			
Phe	Met	Trp	Arg	Gln	His	His	Tyr	Gln	Ala	Ile	Val	Thr	Ala	Tyr
2975						2980					2985			
Glu	Asn	Ser	Ser	Gln	His	Asp	Pro	Ser	Ser	Asn	Asn	Ala	Met	Leu
2990						2995					3000			
Gly	Val	His	Ala	Ser	Ala	Ser	Ala	Ile	Ile	Gln	Tyr	Gly	Lys	Ile
3005						3010					3015			
Ala	Arg	Lys	Gln	Gly	Leu	Val	Asn	Val	Ala	Leu	Asp	Ile	Leu	Ser
3020						3025					3030			
Arg	Ile	His	Thr	Ile	Pro	Thr	Val	Pro	Ile	Val	Asp	Cys	Phe	Gln
3035						3040					3045			
Lys	Ile	Arg	Gln	Gln	Val	Lys	Cys	Tyr	Leu	Gln	Leu	Ala	Gly	Val
3050						3055					3060			
Met	Gly	Lys	Asn	Glu	Cys	Met	Gln	Gly	Leu	Glu	Val	Ile	Glu	Ser
3065						3070					3075			
Thr	Asn	Leu	Lys	Tyr	Phe	Thr	Lys	Glu	Met	Thr	Ala	Glu	Phe	Tyr
3080						3085					3090			
Ala	Leu	Lys	Gly	Met	Phe	Leu	Ala	Gln	Ile	Asn	Lys	Ser	Glu	Glu
3095						3100					3105			
Ala	Asn	Lys	Ala	Phe	Ser	Ala	Ala	Val	Gln	Met	His	Asp	Val	Leu
3110						3115					3120			
Val	Lys	Ala	Trp	Ala	Met	Trp	Gly	Asp	Tyr	Leu	Glu	Asn	Ile	Phe
3125						3130					3135			
Val	Lys	Glu	Arg	Gln	Leu	His	Leu	Gly	Val	Ser	Ala	Ile	Thr	Cys
3140						3145					3150			



Tyr	Leu	His	Ala	Cys	Arg	His	Gln	Asn	Glu	Ser	Lys	Ser	Arg	Lys
	3155					3160					3165			
Tyr	Leu	Ala	Lys	Val	Leu	Trp	Leu	Leu	Ser	Phe	Asp	Asp	Asp	Lys
	3170					3175					3180			
Asn	Thr	Leu	Ala	Asp	Ala	Val	Asp	Lys	Tyr	Cys	Ile	Gly	Val	Pro
	3185					3190					3195			
Pro	Ile	Gln	Trp	Leu	Ala	Trp	Ile	Pro	Gln	Leu	Leu	Thr	Cys	Leu
	3200					3205					3210			
Val	Gly	Ser	Glu	Gly	Lys	Leu	Leu	Leu	Asn	Leu	Ile	Ser	Gln	Val
	3215					3220					3225			
Gly	Arg	Val	Tyr	Pro	Gln	Ala	Val	Tyr	Phe	Pro	Ile	Arg	Thr	Leu
	3230					3235					3240			
Tyr	Leu	Thr	Leu	Lys	Ile	Glu	Gln	Arg	Glu	Arg	Tyr	Lys	Ser	Asp
	3245					3250					3255			
Pro	Gly	Pro	Ile	Arg	Ala	Thr	Ala	Pro	Met	Trp	Arg	Cys	Ser	Arg
	3260					3265					3270			
Ile	Met	His	Met	Gln	Arg	Glu	Leu	His	Pro	Thr	Leu	Leu	Ser	Ser
	3275					3280					3285			
Leu	Glu	Gly	Ile	Val	Asp	Gln	Met	Val	Trp	Phe	Arg	Glu	Asn	Trp
	3290					3295					3300			
His	Glu	Glu	Val	Leu	Arg	Gln	Leu	Gln	Gln	Gly	Leu	Ala	Lys	Cys
	3305					3310					3315			
Tyr	Ser	Val	Ala	Phe	Glu	Lys	Ser	Gly	Ala	Val	Ser	Asp	Ala	Lys
	3320					3325					3330			
Ile	Thr	Pro	His	Thr	Leu	Asn	Phe	Val	Lys	Lys	Leu	Val	Ser	Thr
	3335					3340					3345			
Phe	Gly	Val	Gly	Leu	Glu	Asn	Val	Ser	Asn	Val	Ser	Thr	Met	Phe
	3350					3355					3360			
Ser	Ser	Ala	Ala	Ser	Glu	Ser	Leu	Ala	Arg	Arg	Ala	Gln	Ala	Thr
	3365					3370					3375			
Ala	Gln	Asp	Pro	Val	Phe	Gln	Lys	Leu	Lys	Gly	Gln	Phe	Thr	Thr
	3380					3385					3390			
Asp	Phe	Asp	Phe	Ser	Val	Pro	Gly	Ser	Met	Lys	Leu	His	Asn	Leu
	3395					3400					3405			
Ile	Ser	Lys	Leu	Lys	Lys	Trp	Ile	Lys	Ile	Leu	Glu	Ala	Lys	Thr

3410

3415

3420

Lys Gln Leu Pro Lys Phe Phe Leu Ile Glu Glu Lys Cys Arg Phe  
 3425 3430 3435

Leu Ser Asn Phe Ser Ala Gln Thr Ala Glu Val Glu Ile Pro Gly  
 3440 3445 3450

Glu Phe Leu Met Pro Lys Pro Thr His Tyr Tyr Ile Lys Ile Ala  
 3455 3460 3465

Arg Phe Met Pro Arg Val Glu Ile Val Gln Lys His Asn Thr Ala  
 3470 3475 3480

Ala Arg Arg Leu Tyr Ile Arg Gly His Asn Gly Lys Ile Tyr Pro  
 3485 3490 3495

Tyr Leu Val Met Asn Asp Ala Cys Leu Thr Glu Ser Arg Arg Glu  
 3500 3505 3510

Glu Arg Val Leu Gln Leu Leu Arg Leu Leu Asn Pro Cys Leu Glu  
 3515 3520 3525

Lys Arg Lys Glu Thr Thr Lys Arg His Leu Phe Phe Thr Val Pro  
 3530 3535 3540

Arg Val Val Ala Val Ser Pro Gln Met Arg Leu Val Glu Asp Asn  
 3545 3550 3555

Pro Ser Ser Leu Ser Leu Val Glu Ile Tyr Lys Gln Arg Cys Ala  
 3560 3565 3570

Lys Lys Gly Ile Glu His Asp Asn Pro Ile Ser Arg Tyr Tyr Asp  
 3575 3580 3585

Arg Leu Ala Thr Val Gln Ala Arg Gly Thr Gln Ala Ser His Gln  
 3590 3595 3600

Val Leu Arg Asp Ile Leu Lys Glu Val Gln Ser Asn Met Val Pro  
 3605 3610 3615

Arg Ser Met Leu Lys Glu Trp Ala Leu His Thr Phe Pro Asn Ala  
 3620 3625 3630

Thr Asp Tyr Trp Thr Phe Arg Lys Met Phe Thr Ile Gln Leu Ala  
 3635 3640 3645

Leu Ile Gly Phe Ala Glu Phe Val Leu His Leu Asn Arg Leu Asn  
 3650 3655 3660

Pro Glu Met Leu Gln Ile Ala Gln Asp Thr Gly Lys Leu Asn Val  
 3665 3670 3675

Ala Tyr Phe Arg Phe Asp Ile Asn Asp Ala Thr Gly Asp Leu Asp  
3680 3685 3690

Ala Asn Arg Pro Val Pro Phe Arg Leu Thr Pro Asn Ile Ser Glu  
3695 3700 3705

Phe Leu Thr Thr Ile Gly Val Ser Gly Pro Leu Thr Ala Ser Met  
3710 3715 3720

Ile Ala Val Ala Arg Cys Phe Ala Gln Pro Asn Phe Lys Val Asp  
3725 3730 3735

Gly Ile Leu Lys Thr Val Leu Arg Asp Glu Ile Ile Ala Trp His  
3740 3745 3750

Lys Lys Thr Gln Glu Asp Thr Ser Ser Pro Leu Ser Ala Ala Gly  
3755 3760 3765

Gln Pro Glu Asn Met Asp Ser Gln Gln Leu Val Ser Leu Val Gln  
3770 3775 3780

Lys Ala Val Thr Ala Ile Met Thr Arg Leu His Asn Leu Ala Gln  
3785 3790 3795

Phe Glu Gly Gly Glu Ser Lys Val Asn Thr Leu Val Ala Ala Ala  
3800 3805 3810

Asn Ser Leu Asp Asn Leu Cys Arg Met Asp Pro Ala Trp His Pro  
3815 3820 3825

Trp Leu  
3830

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<212> PRT  
<213> Homo sapiens

<400> 13

Met Lys Ile Phe Val Gly Asn Val Asp Gly Ala Asp Thr Thr Pro Glu  
1 5 10 15

Glu Leu Ala Ala Leu Phe Ala Pro Tyr Gly Thr Val Met Ser Cys Ala  
20 25 30

Val Met Lys Gln Phe Ala Phe Val His Met Arg Glu Asn Ala Gly Ala  
35 40 45

Leu Arg Ala Ile Glu Ala Leu His Gly His Glu Leu Arg Pro Gly Arg  
50 55 60

Ala	Leu	Val	Val	Glu	Met	Ser	Arg	Pro	Arg	Pro	Leu	Asn	Thr	Trp	Lys	65	70	75	80
Ile	Phe	Val	Gly	Asn	Val	Ser	Ala	Ala	Cys	Thr	Ser	Gln	Glu	Leu	Arg	85	90	95	
Ser	Leu	Phe	Glu	Arg	Arg	Gly	Arg	Val	Ile	Glu	Cys	Asp	Val	Val	Lys	100	105	110	
Asp	Tyr	Ala	Phe	Val	His	Met	Glu	Lys	Glu	Ala	Asp	Ala	Lys	Ala	Ala	115	120	125	
Ile	Ala	Gln	Leu	Asn	Gly	Lys	Glu	Val	Lys	Gly	Lys	Arg	Ile	Asn	Val	130	135	140	
Glu	Leu	Ser	Thr	Lys	Gly	Gln	Lys	Lys	Gly	Pro	Gly	Leu	Ala	Val	Gln	145	150	155	160
Ser	Gly	Asp	Lys	Thr	Lys	Lys	Pro	Gly	Ala	Gly	Asp	Thr	Ala	Phe	Pro	165	170	175	
Gly	Thr	Gly	Gly	Phe	Ser	Ala	Thr	Phe	Asp	Tyr	Gln	Gln	Ala	Phe	Gly	180	185	190	
Asn	Ser	Thr	Gly	Gly	Phe	Asp	Gly	Gln	Ala	Arg	Gln	Pro	Thr	Pro	Pro	195	200	205	
Phe	Phe	Gly	Arg	Asp	Arg	Ser	Pro	Leu	Arg	Arg	Ser	Pro	Pro	Arg	Ala	210	215	220	
Ser	Tyr	Val	Ala	Pro	Leu	Thr	Ala	Gln	Pro	Ala	Thr	Tyr	Arg	Ala	Gln	225	230	235	240
Pro	Ser	Val	Ser	Leu	Gly	Ala	Ala	Tyr	Arg	Ala	Gln	Pro	Ser	Ala	Ser	245	250	255	
Leu	Gly	Val	Gly	Tyr	Arg	Thr	Gln	Pro	Met	Thr	Ala	Gln	Ala	Ala	Ser	260	265	270	
Tyr	Arg	Ala	Gln	Pro	Ser	Val	Ser	Leu	Gly	Ala	Pro	Tyr	Arg	Gly	Gln	275	280	285	
Leu	Ala	Ser	Pro	Ser	Ser	Gln	Ser	Ala	Ala	Ala	Ser	Ser	Leu	Gly	Pro	290	295	300	
Tyr	Gly	Gly	Ala	Gln	Pro	Ser	Ala	Ser	Ala	Leu	Ser	Ser	Tyr	Gly	Gly	305	310	315	320
Gln	Ala	Ala	Ala	Ala	Ser	Ser	Leu	Asn	Ser	Tyr	Gly	Ala	Gln	Gly	Ser	325	330	335	
Ser	Leu	Ala	Ser	Tyr	Gly	Asn	Gln	Pro	Ser	Ser	Tyr	Gly	Ala	Gln	Ala				

340

345

350

Ala Ser Ser Tyr Gly Val Arg Ala Ala Ala Ser Ser Tyr Asn Thr Gln  
 355 360 365

Gly Ala Ala Ser Ser Leu Gly Ser Tyr Gly Ala Gln Ala Ala Ser Tyr  
 370 375 380

Gly Ala Gln Ser Ala Ala Ser Ser Leu Ala Tyr Gly Ala Gln Ala Ala  
 385 390 395 400

Ser Tyr Asn Ala Gln Pro Ser Ala Ser Tyr Asn Ala Gln Ser Ala Pro  
 405 410 415

Tyr Ala Ala Gln Gln Ala Ala Ser Tyr Ser Ser Gln Pro Ala Ala Tyr  
 420 425 430

Val Ala Gln Pro Ala Thr Ala Ala Ala Tyr Ala Ser Gln Pro Ala Ala  
 435 440 445

Tyr Ala Ala Gln Ala Thr Thr Pro Met Ala Gly Ser Tyr Gly Ala Gln  
 450 455 460

Pro Val Val Gln Thr Gln Leu Asn Ser Tyr Gly Ala Gln Ala Ser Met  
 465 470 475 480

Gly Leu Ser Gly Ser Tyr Gly Ala Gln Ser Ala Ala Ala Ala Thr Gly  
 485 490 495

Ser Tyr Gly Ala Ala Ala Ala Tyr Gly Ala Gln Pro Ser Ala Thr Leu  
 500 505 510

Ala Ala Pro Tyr Arg Thr Gln Ser Ser Ala Ser Leu Ala Ala Ser Tyr  
 515 520 525

Ala Ala Gln Gln His Pro Gln Ala Ala Ala Ser Tyr Arg Gly Gln Pro  
 530 535 540

Gly Asn Ala Tyr Asp Gly Ala Gly Gln Pro Ser Ala Ala Tyr Leu Ser  
 545 550 555 560

Met Ser Gln Gly Ala Val Ala Asn Ala Asn Ser Thr Pro Pro Pro Tyr  
 565 570 575

Glu Arg Thr Arg Leu Ser Pro Pro Arg Ala Ser Tyr Asp Asp Pro Tyr  
 580 585 590

Lys Lys Ala Val Ala Met Ser Lys Arg Tyr Gly Ser Asp Arg Arg Leu  
 595 600 605

Ala Glu Leu Ser Asp Tyr Arg Arg Leu Ser Glu Ser Gln Leu Ser Phe  
 610 615 620

Arg Arg Ser Pro Thr Lys Ser Ser Leu Asp Tyr Arg Arg Leu Pro Asp  
625 630 635 640

Ala His Ser Asp Tyr Ala Arg Tyr Ser Gly Ser Tyr Asn Asp Tyr Leu  
645 650 655

Arg Ala Ala Gln Met His Ser Gly Tyr Gln Arg Arg Met  
660 665

<210> 14  
<211> 456  
<212> PRT  
<213> Homo sapiens

<400> 14

Met Lys Ile Glu Glu Val Lys Ser Thr Thr Lys Thr Gln Arg Ile Ala  
1 5 10 15

Ser His Ser His Val Lys Gly Leu Gly Leu Asp Glu Ser Gly Leu Ala  
20 25 30

Lys Gln Ala Ala Ser Gly Leu Val Gly Gln Glu Asn Ala Arg Glu Ala  
35 40 45

Cys Gly Val Ile Val Glu Leu Ile Lys Ser Lys Lys Met Ala Gly Arg  
50 55 60

Ala Val Leu Leu Ala Gly Pro Pro Gly Thr Gly Lys Thr Ala Leu Ala  
65 70 75 80

Leu Ala Ile Ala Gln Glu Leu Gly Ser Lys Val Pro Phe Cys Pro Met  
85 90 95

Val Gly Ser Glu Val Tyr Ser Thr Glu Ile Lys Lys Thr Glu Val Leu  
100 105 110

Met Glu Asn Phe Arg Arg Ala Ile Gly Leu Arg Ile Lys Glu Thr Lys  
115 120 125

Glu Val Tyr Glu Gly Glu Val Thr Glu Leu Thr Pro Cys Glu Thr Glu  
130 135 140

Asn Pro Met Gly Gly Tyr Gly Lys Thr Ile Ser His Val Ile Ile Gly  
145 150 155 160

Leu Lys Thr Ala Lys Gly Thr Lys Gln Leu Lys Leu Asp Pro Ser Ile  
165 170 175

Phe Glu Ser Leu Gln Lys Glu Arg Val Glu Ala Gly Asp Val Ile Tyr  
180 185 190

Ile Glu Ala Asn Ser Gly Ala Val Lys Arg Gln Gly Arg Cys Asp Thr  
 195 200 205  
 Tyr Ala Thr Glu Phe Asp Leu Glu Ala Glu Glu Tyr Val Pro Leu Pro  
 210 215 220  
 Lys Gly Asp Val His Lys Lys Lys Glu Ile Ile Gln Asp Val Thr Leu  
 225 230 235 240  
 His Asp Leu Asp Val Ala Asn Ala Arg Pro Gln Gly Gly Gln Asp Ile  
 245 250 255  
 Leu Ser Met Met Gly Gln Leu Met Lys Pro Lys Lys Thr Glu Ile Thr  
 260 265 270  
 Asp Lys Leu Arg Gly Glu Ile Asn Lys Val Val Asn Lys Tyr Ile Asp  
 275 280 285  
 Gln Gly Ile Ala Glu Leu Val Pro Gly Val Leu Phe Val Asp Glu Val  
 290 295 300  
 His Met Leu Asp Ile Glu Cys Phe Thr Tyr Leu His Arg Ala Leu Glu  
 305 310 315 320  
 Ser Ser Ile Ala Pro Ile Val Ile Phe Ala Ser Asn Arg Gly Asn Cys  
 325 330 335  
 Val Ile Arg Gly Thr Glu Asp Ile Thr Ser Pro His Gly Ile Pro Leu  
 340 345 350  
 Asp Leu Leu Asp Arg Val Met Ile Ile Arg Thr Met Leu Tyr Thr Pro  
 355 360 365  
 Gln Glu Met Lys Gln Ile Ile Lys Ile Arg Ala Gln Thr Glu Gly Ile  
 370 375 380  
 Asn Ile Ser Glu Glu Ala Leu Asn His Leu Gly Glu Ile Gly Thr Lys  
 385 390 395 400  
 Thr Thr Leu Arg Tyr Ser Val Gln Leu Leu Thr Pro Ala Asn Leu Leu  
 405 410 415  
 Ala Lys Ile Asn Gly Lys Asp Ser Ile Glu Lys Glu His Val Glu Glu  
 420 425 430  
 Ile Ser Glu Leu Phe Tyr Asp Ala Lys Ser Ser Ala Lys Ile Leu Ala  
 435 440 445  
 Asp Gln Gln Asp Lys Tyr Met Lys  
 450 455

<211> 475  
<212> PRT  
<213> Homo sapiens  
<400> 15

Met Leu Pro Gly Pro Ala Leu Arg Gly Pro Gly Pro Ala Gln Tyr Gln  
1 5 10 15

Arg Pro Gly Met Ser Pro Gly Asn Arg Met Pro Met Ala Arg Leu Ala  
20 25 30

Gly Gly Thr Pro Cys Trp Leu Pro Ile Trp Cys Ser Ser Ser Ala Ser  
35 40 45

Thr Trp His Pro Thr His His Asp Gly Ser Ile Pro Lys Thr Pro Ala  
50 55 60

Cys Ala Pro Ala Gln Pro Pro Met Pro Ala Gln Arg Arg Gly Leu Lys  
65 70 75 80

Arg Arg Lys Met Ala Asp Lys Val Leu Pro Gln Arg Ile Arg Glu Leu  
85 90 95

Val Pro Glu Ser Gln Ala Tyr Met Asp Leu Leu Ala Phe Glu Arg Lys  
100 105 110

Leu Asp Gln Thr Ile Ala Arg Lys Arg Met Glu Ile Gln Glu Ala Ile  
115 120 125

Lys Lys Pro Leu Thr Gln Lys Arg Lys Leu Arg Ile Tyr Ile Ser Asn  
130 135 140

Thr Phe Ser Pro Ser Lys Ala Glu Gly Asp Ser Ala Gly Thr Ala Gly  
145 150 155 160

Thr Pro Gly Gly Thr Pro Ala Gly Asp Lys Val Ala Ser Trp Glu Leu  
165 170 175

Arg Val Glu Gly Lys Leu Leu Asp Asp Pro Ser Lys Gln Lys Arg Lys  
180 185 190

Phe Ser Ser Phe Phe Lys Ser Leu Val Ile Glu Leu Asp Lys Glu Leu  
195 200 205

Tyr Gly Pro Asp Gly His Leu Val Glu Trp Tyr Trp Met Pro Thr Thr  
210 215 220

Gln Glu Thr Asp Gly Phe Gln Val Lys Arg Pro Gly Asp Leu Asn Val  
225 230 235 240

Lys Cys Thr Leu Leu Leu Met Leu Asp His Gln Pro Pro Gln Tyr Lys  
245 250 255



Leu Asp Pro Arg Leu Ala Arg Leu Leu Gly Val His Thr Gln Thr Arg  
260 265 270

Ala Ala Ile Met Gln Ala Leu Trp Leu Tyr Ile Lys His Asn Gln Leu  
275 280 285

Gln Asp Gly His Glu Arg Glu Tyr Ile Asn Cys Asn Arg Tyr Phe Arg  
290 295 300

Gln Ile Phe Ser Cys Gly Arg Leu Arg Phe Ser Glu Ile Pro Met Lys  
305 310 315 320

Leu Ala Gly Leu Leu Gln His Pro Asp Pro Ile Val Ile Asn His Val  
325 330 335

Ile Ser Val Asp Pro Asn Asp Gln Lys Lys Thr Ala Cys Tyr Asp Ile  
340 345 350

Asp Val Glu Val Asp Asp Pro Leu Lys Ala Gln Met Ser Asn Phe Leu  
355 360 365

Ala Ser Thr Thr Asn Gln Gln Glu Ile Ala Ser Leu Asp Val Lys Ile  
370 375 380

His Glu Thr Ile Glu Ser Ile Asn Gln Leu Lys Thr Gln Arg Asp Phe  
385 390 395 400

Met Leu Ser Phe Ser Thr Asp Pro Gln Asp Phe Ile Gln Glu Trp Leu  
405 410 415

Arg Ser Gln Arg Arg Asp Leu Lys Ile Ile Thr Asp Val Thr Gly Asn  
420 425 430

Pro Glu Glu Glu Arg Arg Ala Ala Phe Tyr His Gln Pro Trp Ala Gln  
435 440 445

Glu Ala Val Gly Arg His Ile Phe Ala Lys Val Gln Gln Arg Arg Gln  
450 455 460

Glu Leu Glu Gln Val Leu Gly Ile Arg Leu Thr  
465 470 475

<210> 16  
<211> 1235  
<212> PRT  
<213> Homo sapiens  
  
<400> 16

Met Ala Thr Gly Thr Gly Lys His Lys Leu Leu Ser Thr Gly Pro Thr  
1 5 10 15

Glu Pro Trp Ser Ile Arg Glu Lys Leu Cys Leu Ala Ser Ser Val Met

20

25

30

Arg Ser Gly Asp Gln Asn Trp Val Ser Val Ser Arg Ala Ile Lys Pro  
 35 40 45

Phe Ala Glu Pro Gly Arg Pro Pro Asp Trp Phe Ser Gln Lys His Cys  
 50 55 60

Ala Ser Gln Tyr Ser Glu Leu Leu Glu Thr Thr Glu Thr Pro Lys Arg  
 65 70 75 80

Lys Arg Gly Glu Lys Gly Glu Val Val Glu Thr Val Glu Asp Val Ile  
 85 90 95

Val Arg Lys Leu Thr Ala Glu Arg Val Glu Glu Leu Lys Lys Val Ile  
 100 105 110

Lys Glu Thr Gln Glu Arg Tyr Arg Arg Leu Lys Arg Asp Ala Glu Leu  
 115 120 125

Ile Gln Ala Gly His Met Asp Ser Arg Leu Asp Glu Leu Cys Asn Asp  
 130 135 140

Ile Ala Thr Lys Lys Lys Leu Glu Glu Glu Glu Ala Glu Val Lys Arg  
 145 150 155 160

Lys Ala Thr Asp Ala Ala Tyr Gln Ala Arg Gln Ala Val Lys Thr Pro  
 165 170 175

Pro Arg Arg Leu Pro Thr Val Met Val Arg Ser Pro Ile Asp Ser Ala  
 180 185 190

Ser Pro Gly Gly Asp Tyr Pro Leu Gly Asp Leu Thr Pro Thr Thr Met  
 195 200 205

Glu Glu Ala Thr Ser Gly Val Asn Glu Ser Glu Met Ala Val Ala Ser  
 210 215 220

Gly His Leu Asn Ser Thr Gly Val Leu Leu Glu Val Gly Gly Val Leu  
 225 230 235 240

Pro Met Ile His Gly Gly Glu Ile Gln Gln Thr Pro Asn Thr Val Ala  
 245 250 255

Ala Ser Pro Ala Ala Ser Gly Ala Pro Thr Leu Ser Arg Leu Leu Glu  
 260 265 270

Ala Gly Pro Thr Gln Phe Thr Thr Pro Leu Ala Ser Phe Thr Thr Val  
 275 280 285

Ala Ser Glu Pro Pro Val Lys Leu Val Pro Pro Pro Val Glu Ser Val  
 290 295 300

Ser Gln Ala Thr Ile Val Met Met Pro Ala Leu Pro Ala Pro Ser Ser  
305 310 315 320

Ala Pro Ala Val Ser Thr Thr Glu Ser Val Ala Pro Val Ser Gln Pro  
325 330 335

Asp Asn Cys Val Pro Met Glu Ala Val Gly Asp Pro His Thr Val Thr  
340 345 350

Val Ser Met Asp Ser Ser Glu Ile Ser Met Ile Ile Asn Ser Ile Lys  
355 360 365

Glu Glu Cys Phe Arg Ser Gly Val Ala Glu Ala Pro Val Gly Ser Lys  
370 375 380

Ala Pro Ser Ile Asp Gly Lys Glu Glu Leu Asp Leu Ala Glu Lys Met  
385 390 395 400

Asp Ile Ala Val Ser Tyr Thr Gly Glu Glu Leu Asp Phe Glu Thr Val  
405 410 415

Gly Asp Ile Ile Ala Ile Ile Glu Asp Lys Val Asp Asp His Pro Glu  
420 425 430

Val Leu Asp Val Ala Ala Val Glu Ala Ala Leu Ser Phe Cys Glu Glu  
435 440 445

Asn Asp Asp Pro Gln Ser Leu Pro Gly Pro Trp Glu His Pro Ile Gln  
450 455 460

Gln Glu Arg Asp Lys Pro Val Pro Leu Pro Ala Pro Glu Met Thr Val  
465 470 475 480

Lys Gln Glu Arg Leu Asp Phe Glu Glu Thr Glu Asn Lys Gly Ile His  
485 490 495

Glu Leu Val Asp Ile Arg Glu Pro Ser Ala Glu Ile Lys Val Glu Pro  
500 505 510

Ala Glu Pro Glu Pro Val Ile Ser Gly Ala Glu Ile Val Ala Gly Val  
515 520 525

Val Pro Ala Thr Ser Met Glu Pro Pro Glu Leu Arg Ser Gln Asp Leu  
530 535 540

Asp Glu Glu Leu Gly Ser Thr Ala Ala Gly Glu Ile Val Glu Ala Asp  
545 550 555 560

Val Ala Ile Gly Lys Gly Asp Glu Thr Pro Leu Thr Asn Val Lys Thr  
565 570 575

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      .      .
      .      .
Glu Ala Ser Pro Glu Ser Met Leu Ser Pro Ser His Gly Ser Asn Pro
580      585      590

Ile Glu Asp Pro Leu Glu Ala Glu Thr Gln His Lys Phe Glu Met Ser
595      600      605

Asp Ser Leu Lys Glu Glu Ser Gly Thr Ile Phe Gly Ser Gln Ile Lys
610      615      620

Asp Ala Pro Gly Glu Asp Glu Glu Glu Asp Gly Val Ser Glu Ala Ala
625      630      635      640

Ser Leu Glu Glu Pro Lys Glu Glu Asp Gln Gly Glu Gly Tyr Leu Ser
645      650      655

Glu Met Asp Asn Glu Pro Pro Val Ser Glu Ser Asp Asp Gly Phe Ser
660      665      670

Ile His Asn Ala Thr Leu Gln Ser His Thr Leu Ala Asp Ser Ile Pro
675      680      685

Ser Ser Pro Ala Ser Ser Gln Phe Ser Val Cys Ser Glu Asp Gln Glu
690      695      700

Ala Ile Gln Ala Gln Lys Ile Trp Lys Lys Ala Ile Met Leu Val Trp
705      710      715      720

Arg Ala Ala Ala Asn His Arg Tyr Ala Asn Val Phe Leu Gln Pro Val
725      730      735

Thr Asp Asp Ile Ala Pro Gly Tyr His Ser Ile Val Gln Arg Pro Met
740      745      750

Asp Leu Ser Thr Ile Lys Lys Asn Ile Glu Asn Gly Leu Ile Arg Ser
755      760      765

Thr Ala Glu Phe Gln Arg Asp Ile Met Leu Met Phe Gln Asn Ala Val
770      775      780

Met Tyr Asn Ser Ser Asp His Asp Val Tyr His Met Ala Val Glu Met
785      790      795      800

Gln Arg Asp Val Leu Glu Gln Ile Gln Gln Phe Leu Ala Thr Gln Leu
805      810      815

Ile Met Gln Thr Ser Glu Ser Gly Ile Ser Ala Lys Ser Leu Arg Gly
820      825      830

Arg Asp Ser Thr Arg Lys Gln Asp Ala Ser Glu Lys Asp Ser Val Pro
835      840      845

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Met Gly Ser Pro Ala Phe Leu Leu Ser Leu Phe Met Gly His Glu Trp  
 850 855 860

Val Trp Leu Asp Ser Glu Gln Asp His Pro Asn Asp Ser Glu Leu Ser  
 865 870 875 880

Asn Asp Cys Arg Ser Leu Phe Ser Ser Trp Asp Ser Ser Leu Asp Leu  
 885 890 895

Asp Val Gly Asn Trp Arg Glu Thr Glu Asp Pro Glu Ala Glu Glu Leu  
 900 905 910

Glu Glu Ser Ser Pro Glu Arg Glu Pro Ser Glu Leu Leu Val Gly Asp  
 915 920 925

Gly Gly Ser Glu Glu Ser Gln Glu Ala Ala Arg Lys Ala Ser His Gln  
 930 935 940

Asn Leu Leu His Phe Leu Ser Glu Val Ala Tyr Leu Met Glu Pro Leu  
 945 950 955 960

Cys Ile Ser Ser Asn Glu Ser Ser Glu Gly Cys Cys Pro Pro Ser Gly  
 965 970 975

Thr Arg Gln Glu Gly Arg Glu Ile Lys Ala Ser Glu Gly Glu Arg Glu  
 980 985 990

Leu Cys Arg Glu Thr Glu Glu Leu Ser Ala Lys Gly Asp Pro Leu Val  
 995 1000 1005

Ala Glu Lys Pro Leu Gly Glu Asn Gly Lys Pro Glu Val Ala Ser  
 1010 1015 1020

Ala Pro Ser Val Ile Cys Thr Val Gln Gly Leu Leu Thr Glu Ser  
 1025 1030 1035

Glu Glu Gly Glu Ala Gln Gln Glu Ser Lys Gly Glu Asp Gln Gly  
 1040 1045 1050

Glu Val Tyr Val Ser Glu Met Glu Asp Gln Pro Pro Ser Gly Glu  
 1055 1060 1065

Cys Asp Asp Ala Phe Asn Ile Lys Glu Thr Pro Leu Val Asp Thr  
 1070 1075 1080

Leu Phe Ser His Ala Thr Ser Ser Lys Leu Thr Asp Leu Ser Gln  
 1085 1090 1095

Asp Asp Pro Val Gln Asp His Leu Leu Phe Lys Lys Thr Leu Leu  
 1100 1105 1110

Pro Val Trp Lys Met Ile Ala Ser His Arg Phe Ser Ser Pro Phe

1115

1120

1125

Leu Lys Pro Val Ser Glu Arg Gln Ala Pro Gly Tyr Lys Asp Val  
 1130 1135 1140

Val Lys Arg Pro Met Asp Leu Thr Ser Leu Lys Arg Asn Leu Ser  
 1145 1150 1155

Lys Gly Arg Ile Arg Thr Met Ala Gln Phe Leu Arg Asp Leu Met  
 1160 1165 1170

Leu Met Phe Gln Asn Ala Val Met Tyr Asn Asp Ser Asp His His  
 1175 1180 1185

Val Tyr His Met Ala Val Glu Met Arg Arg Glu Val Leu Glu Gln  
 1190 1195 1200

Ile Gln Val Leu Asn Ile Trp Leu Asp Lys Arg Lys Gly Ser Ser  
 1205 1210 1215

Ser Leu Glu Gly Glu Pro Ala Asn Pro Val Asp Asp Gly Lys Pro  
 1220 1225 1230

Val Phe  
 1235

<210> 17  
 <211> 513  
 <212> PRT  
 <213> Homo sapiens  
 <400> 17

Met Ala Glu Val Gly Glu Ile Ile Glu Gly Cys Arg Leu Pro Val Leu  
 1 5 10 15

Arg Arg Asn Gln Asp Asn Glu Asp Glu Trp Pro Leu Ala Glu Ile Leu  
 20 25 30

Ser Val Lys Asp Ile Ser Gly Arg Lys Leu Phe Tyr Val His Tyr Ile  
 35 40 45

Asp Phe Asn Lys Arg Leu Asp Glu Trp Val Thr His Glu Arg Leu Asp  
 50 55 60

Leu Lys Lys Ile Gln Phe Pro Lys Lys Glu Ala Lys Thr Pro Thr Lys  
 65 70 75 80

Asn Gly Leu Pro Gly Ser Arg Pro Gly Ser Pro Glu Arg Glu Val Pro  
 85 90 95

Ala Ser Ala Gln Ala Ser Gly Lys Thr Leu Pro Ile Pro Val Gln Ile  
 100 105 110

Thr Leu Arg Phe Asn Leu Pro Lys Glu Arg Glu Ala Ile Pro Gly Gly  
 115 120 125

Glu Pro Asp Gln Pro Leu Ser Ser Ser Ser Cys Leu Gln Pro Asn His  
 130 135 140

Arg Ser Thr Lys Arg Lys Val Glu Val Val Ser Pro Ala Thr Pro Val  
 145 150 155 160

Pro Ser Glu Thr Ala Pro Ala Ser Val Phe Pro Gln Asn Gly Ala Ala  
 165 170 175

Arg Arg Ala Val Ala Ala Gln Pro Gly Arg Lys Arg Lys Ser Asn Cys  
 180 185 190

Leu Gly Thr Asp Glu Asp Ser Gln Asp Ser Ser Asp Gly Ile Pro Ser  
 195 200 205

Ala Pro Arg Met Thr Gly Ser Leu Val Ser Asp Arg Ser His Asp Asp  
 210 215 220

Ile Val Thr Arg Met Lys Asn Ile Glu Cys Ile Glu Leu Gly Arg His  
 225 230 235 240

Arg Leu Lys Pro Trp Tyr Phe Ser Pro Tyr Pro Gln Glu Leu Thr Thr  
 245 250 255

Leu Pro Val Leu Tyr Leu Cys Glu Phe Cys Leu Lys Tyr Gly Arg Ser  
 260 265 270

Leu Lys Cys Leu Gln Arg His Leu Thr Lys Cys Asp Leu Arg His Pro  
 275 280 285

Pro Gly Asn Glu Ile Tyr Arg Lys Gly Thr Ile Ser Phe Phe Glu Ile  
 290 295 300

Asp Gly Arg Lys Asn Lys Ser Tyr Ser Gln Asn Leu Cys Leu Leu Ala  
 305 310 315 320

Lys Cys Phe Leu Asp His Lys Thr Leu Tyr Tyr Asp Thr Asp Pro Phe  
 325 330 335

Leu Phe Tyr Val Met Thr Glu Tyr Asp Cys Lys Gly Phe His Ile Val  
 340 345 350

Gly Tyr Phe Ser Lys Glu Lys Glu Ser Thr Glu Asp Tyr Asn Val Ala  
 355 360 365

Cys Ile Leu Thr Leu Pro Pro Tyr Gln Arg Arg Gly Tyr Arg Lys Leu  
 370 375 380

Leu Ile Glu Phe Ser Tyr Glu Leu Ser Lys Val Glu Gly Lys Thr Gly  
385 390 395 400

Thr Pro Glu Lys Pro Leu Ser Asp Leu Gly Leu Leu Ser Tyr Arg Ser  
405 410 415

Tyr Trp Ser Gln Thr Ile Leu Glu Ile Leu Met Gly Leu Lys Ser Glu  
420 425 430

Ser Gly Glu Arg Pro Gln Ile Thr Ile Asn Glu Ile Ser Glu Ile Thr  
435 440 445

Ser Ile Lys Lys Glu Asp Val Ile Ser Thr Leu Gln Tyr Leu Asn Leu  
450 455 460

Ile Asn Tyr Tyr Lys Gly Gln Tyr Ile Leu Thr Leu Ser Glu Asp Ile  
465 470 475 480

Val Asp Gly His Glu Arg Ala Met Leu Lys Arg Leu Leu Arg Ile Asp  
485 490 495

Ser Lys Cys Leu His Phe Thr Pro Lys Asp Trp Ser Lys Arg Gly Lys  
500 505 510

Trp

<210> 18  
<211> 364  
<212> PRT  
<213> Homo sapiens

<400> 18

Met Ser Leu Ala Gly Gly Arg Ala Pro Arg Lys Thr Ala Gly Asn Arg  
1 5 10 15

Leu Ser Gly Leu Leu Glu Ala Glu Glu Glu Asp Glu Phe Tyr Gln Thr  
20 25 30

Thr Tyr Gly Gly Phe Thr Glu Glu Ser Gly Asp Asp Glu Tyr Gln Gly  
35 40 45

Asp Gln Ser Asp Thr Glu Asp Glu Val Asp Ser Asp Phe Asp Ile Asp  
50 55 60

Glu Gly Asp Glu Pro Ser Ser Asp Gly Glu Ala Glu Glu Pro Arg Arg  
65 70 75 80

Lys Arg Arg Val Val Thr Lys Ala Tyr Lys Glu Pro Leu Lys Ser Leu  
85 90 95

Arg Pro Arg Lys Val Asn Thr Pro Ala Gly Ser Ser Gln Lys Ala Arg  
100 105 110



Glu Glu Lys Ala Leu Leu Pro Leu Glu Leu Gln Asp Asp Gly Ser Asp  
 115 120 125

Ser Arg Lys Ser Met Arg Gln Ser Thr Ala Glu His Thr Arg Gln Thr  
 130 135 140

Phe Leu Arg Val Gln Glu Arg Gln Gly Gln Ser Arg Arg Arg Lys Gly  
 145 150 155 160

Pro His Cys Glu Arg Pro Leu Thr Gln Glu Glu Leu Leu Arg Glu Ala  
 165 170 175

Lys Ile Thr Glu Glu Leu Asn Leu Arg Ser Leu Glu Thr Tyr Glu Arg  
 180 185 190

Leu Glu Ala Asp Lys Lys Lys Gln Val His Lys Lys Arg Lys Cys Pro  
 195 200 205

Gly Pro Ile Ile Thr Tyr His Ser Val Thr Val Pro Leu Val Gly Glu  
 210 215 220

Pro Gly Pro Lys Glu Glu Asn Val Asp Ile Glu Gly Leu Asp Pro Ala  
 225 230 235 240

Pro Ser Val Ser Ala Leu Thr Pro His Ala Gly Thr Gly Pro Val Asn  
 245 250 255

Pro Pro Ala Arg Cys Ser Arg Thr Phe Ile Thr Phe Ser Asp Asp Ala  
 260 265 270

Thr Phe Glu Glu Trp Phe Pro Gln Gly Arg Pro Pro Lys Val Pro Val  
 275 280 285

Arg Glu Val Cys Pro Val Thr His Arg Pro Ala Leu Tyr Arg Asp Pro  
 290 295 300

Val Thr Asp Ile Pro Tyr Ala Thr Ala Arg Ala Phe Lys Ile Ile Arg  
 305 310 315 320

Glu Ala Tyr Lys Lys Tyr Ile Thr Ala His Gly Leu Pro Pro Thr Ala  
 325 330 335

Ser Ala Leu Gly Pro Gly Pro Pro Pro Glu Pro Leu Pro Gly Ser  
 340 345 350

Gly Pro Arg Ala Leu Arg Gln Lys Ile Val Ile Lys  
 355 360